DOCUMENT RESUME

ED 110 633 CE 004 417

AUTHOR Schrader, Marvin A.
TITLE Task Analysis: Optometric Assistant; Final Report and Supplement to Final Report.
INSTITUTION Lakeshore Technical Inst., Sheboygan, Wis.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.; Wisconsin State Board of Vocational, Technical, and Adult Education, Sheboygan.
PUB DATE Jun 74
NOTE 129p.; Pages 82 through 108 (analysis of Frequency Tables) may reproduce poorly

EDRS PRICE MF-$0.76 HC-$6.97 Plus Postage
DESCRIPTORS Curriculum Development; Data Analysis; Educational Needs; Educational Programs; *Health Occupations Education; Occupational Surveys; *Optometrists; *Paramedical Occupations; Post Secondary Education; *Surveys; Tables (Data); *Task Analysis
IDENTIFIERS *Optometrist Assistants

ABSTRACT

The two-part task analysis provides data relating to: (1) the frequency and proficiency of tasks in an optometric practice that are presently or could be assigned to an assistant and (2) the employment potential for trained optometric assistant graduates. The results were to be utilized for curriculum development for the optometric assistant training program. A task analysis survey form was sent to the 347 members of the Wisconsin Optometric Association and to the 65 Optometric Assistants of Wisconsin members (with 50.4 percent of the optometrists and 66.2 percent of the assistants responding). The analysis and implications of the general information data are discussed and indicate the necessity for curriculum to include skills and knowledges for the graduate to successfully meet certification requirements. The task analysis data, the second section, examines 14 task categories and concludes that further studies should be made in the selection of tasks for the curriculum. The 70-page appendix includes correspondence, the task analysis survey form, responses, and analyses of frequency and proficiency in tabular and graph form. The accompanying supplement to the final report supplies general information and averages of frequency responses. (JB)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED110633

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

FINAL REPORT

Project No. 11.009.151.224

TASK ANALYSIS

OPTOMETRIC ASSISTANT

June 1974

LAKESHORE TECHNICAL INSTITUTE

Cleveland, Wisconsin

CE004417

JUN 16 1975

Final Report

Project No. 11.009.151.224

TASK ANALYSIS

OPTOMETRIC ASSISTANT

Prepared by

Marvin A. Schrader - Principal Investigator

Curriculum Specialist

Lakeshore Technical Institute

Cleveland, Wisconsin

June 1974

The research reported herein was performed pursuant to a grant or contract with the Wisconsin Board of Vocational, Technical and Adult Education, partially reimbursed from an allocation of Federal funds from the U.S. Office of Education, U.S. Department of Health, Education and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official State Board or U.S. Office of Education position or policy.

Contents

Endorsement iii

Acknowledgements. iv

Summary vi

Introduction. 1

Purpose of Study. 2

Sample. 3

Task Analysis Survey Form 3

Administration of the Task Analysis Survey Form 5

Responses 7

Analysis and Implications of General Information Data 7

Analysis and Implications of Tasks Data 13

Appendix. 17

Bibliography. 102

Endorsement

The Wisconsin Optometric Association, Jack Fitzgerald, O.D., president, the Optometric Assistants of Wisconsin, Ms. Marion Krane, president, and the American Optometric Association, Robert E. Day, president, endorsed the project, with the first two also providing letters of endorsement which were enclosed with the survey form.

Acknowledgements

A number of persons were instrumental in the successful completion of this study. Many ancillary personnel such as secretaries, duplicating personnel, computer personnel, and others too numerous to mention were involved. Each of them was an important factor for without any one of them this project could not have been completed as efficiently as it was.

However, special recognition should be given to those persons who gave unselfishly of their time and energy to assist in the completion of this project. Most of the assistance by these persons was in the area of reactions to suggested tasks, suggestions for deleting or adding tasks and task wording, and formats for the task survey form and letters.

Particularly, the following individuals are to be thanked for their participation in this project.

Lakeshore Technical Institute Staff

Mr. George Gruber - Health Occupations Supervisor

Paulette Schmidt, O.D. - Lead Instructor for Optometric Assistant Program

Miss Rita Blanke - Teaching Assistant for Optometric Assistant Program

Mr. James Quicker - Instructor in Communications

Jury Members (other than staff members listed above)

Erol Augsburger, M.S., O.D. - Clinical Coordinator, College of Optometry, Ohio State University

Steven Bates, O.D. - Director, Optometric Technician Program, University of Alabama

James Benson, Ed.D. - Director, Industrial Education, University of Wisconsin-Stout

Harvey T. Brown, O.D., M.Ed. - Director, Allied Optometric Technician Program, Southern College of Optometry

Richard Coleman, O.D. - Director, Optometric Technician Program, Miami Dode Junior College

Jack Fitzgerald, O.D. - 1973 President, Wisconsin Optometric Association

Kenneth Gibson, O.D. - Instructor in Optometric Assistant Program, Lakeshore Technical Institute

A. A. Gossan, O.D. - Private Practice

James R. Gregg, O.D. - Director, Optometric Technicain Program Southern California College of Optometry

Harold Halfin, Ed.D. - Director, Educational Specialist Program, University of Wisconsin-Stout

A. L. Lindell, O.D. - Secretary, Wisconsin Optometry Examining Board

Miss Jackie Maki - Optometric Assistant

Orville Nelson, Ed.D. - Director, VTAE Center, University of Wisconsin-Stout

Fredrick M. Nista, O.D. - Director, Optometric Technician Program, Triton College

Patrick Reardon, O.D. - Director, Optometry III Clinical Program, Ohio State University

John R. Sonnenberg, O.D. - Chairman, Lakeshore Technical Institute, Paraoptometric Advisory Committee

Lakeshore Technical Institute Paraoptometric Advisory Committee Members

Miss Diane Frisch - Optometric Assistant

Paul Guenver, O.D. - Private Practice

Dean Lenz, O.D. - Private Practice

Mrs. Karen Messner - Optometric Assistant

Mrs. Kathy Wagner - Optometric Assistant

Summary

The Optometric Assistant Task Analysis Project was undertaken to provide data (1) relating to the frequency and proficiency of tasks in an optometric practice that are presently or could be assigned to an assistant and (2) relating to the employment potential for trained optometric assistant graduates.

A task survey form was constructed and distributed to 347 Wisconsin Optometric Association members and 65 Optometric Assistants of Wisconsin members for completion. The return (53%) was sufficient to allow the analysis of data to be meaningful. In addition, 47 respondents completed and returned the first page of the task survey form.

The data has been tabulated for easy determination of the average frequency and proficiency needed for each of the tasks. The data also indicated that a curriculum should include the necessary information and skills so that a graduate may become certified. This tabulated data will be utilized in the evaluation and development of the curriculum within the Optometric Assistant Program at Lakeshore Technical Institute as it will be nested within the Health Core Curriculum beginning in the fall of 1974. This development will take place during the fall semester of the 1974-75 school year. Other schools might utilize the data in a similar manner.

The data also indicated that there is a sufficient statewide job market for graduates, even though the number of graduates per year will be increased with the advent of January and June graduations.

8

Introduction

Lakeshore Technical Institute is one of a small number of institutions within the United States that has begun optometric assistant training programs. The development of these programs has been in response to the need for additional personnel in the eye care field to provide quality care to an ever-increasing number of patients. The use of trained ancillary personnel along with new technological advances should assist the optometric practices to provide the care required.

Drs. Alden Haffner and Jerome Sherman conducted a national survey of optometrists in 1970. A large majority, 91.5%, of the respondents answered "yes" when asked to respond to the following question:

"Do you believe that the responsibilities of appropriately trained assistants can be extended beyond the scope of secretarial duties in order to aid usefully the optometrist to perform his professional duties?"

The study also indicated that 75.2% of the West North Central States respondents employed assistants who performed duties beyond secretarial work. While a large percentage employed these ancillary personnel, only 1.3% indicated that their assistants had formal post-secondary education and training to become optometric assistants.

The Optometric Assistant Program was initiated at Lakeshore Technical Institute in 1966 with the first class graduating in the spring of 1968. A simplified topic area analysis was conducted before the program was begun, which served as the basis for the program development. In addition, a practicing optometrist was hired to develop the program.

The combination of analysis and professional guidance lead to the development of an excellent program. The graduates were accepted by the optometric profession and found to be competent in the skills for which they were trained.

The Lakeshore Optometric Assistant Program is the only such program in the state. It has enjoyed the complete support of the Wisconsin Optometric Association including granting of scholarships and providing publicity. The program has also been a popular one with students and has had a waiting list of students for each of the years since its inception. Students enrolled have come from areas throughout the state.

The Optometric Assistant Program has an advisory committee that has the responsibility for assisting in the program development and in ensuring the integrity and relevance of the program. The committee decided, at its spring meeting in 1972, that the optometric field had changed considerably during the past few years which warranted a more

detailed task analysis of the assistant's role in the practice. Both changes in the attitude toward the use of ancillary personnel and technological advances in optometry were cited. Another predicating factor favoring the development of a task analysis form was the expressed concern of some students that training in some skills might not be utilized upon graduation. The advisory committee did not feel that they had enough information to make a decision at that time.

This decision came after the report of a task analysis for the Dental Assistant Program had been completed. It was decided that a similar task analysis procedure be followed.

Purpose of Study

The Lakeshore Technical Institute conducted the task analysis to determine answers to the following questions:

1. What are the tasks that optometrists believe to be within the range of duties of an optometric assistant?

2. How proficient must the trained optometric assistant be when performing these tasks in an optometric office?

3. What is the employment potential for the optometric assistant graduates for 1975-77 and assess the capability of the "Health Core Curriculum" to provide for this potential by its conversion to two-graduation classes per year?

4. Is there a trend toward specialization sufficient to warrant several tracks within the program thereby allowing students to specialize, yet remain employable?

5. What level of training or certification status of the assistant prior to employment is desired by the optometrist?

Sample

A task analysis survey form was sent to all members of the Wisconsin Optometric Association and the Optometric Assistants of Wisconsin members, numbering 347 and 65 respectively.

This membership sample was selected for several reasons. The first was that members of an organization tend to respond to projects having the endorsement of the organization. Secondly, a definition of the person's position has been assessed before membership is granted. This is particularly so in the health occupation field in which rather stringent requirements are usually set. The third reason was that of ready availability of names and addresses of persons throughout the state. This was especially important because Lakeshore Technical Institute's program is the only one in the state and graduates find positions in various parts of the state. Fourth, this selective process conveniently defines a whole population.

The 100-person sample of non-responders** used for the general information portion of the task analysis form was selected by every second non-responder from a list arranged by Zip Code. This was done in order to assure that the population was not skewed to geographical area.

**The non-responders were those persons not returning the entire completed task analysis form by May, 1974.

Task Analysis Survey Form Development

The task analysis survey form was constructed in two parts. The first part was designed to obtain general preliminary information while the second part was designed to obtain frequency and proficiency information relating to the tasks which are presently or could be assigned to a trained optometric assistant.

The information gathered in the first part would be used to make decisions regarding questions 3-5 under the section titled "Purposes." The information requested for these determinations included:

1. Number of optometrists in the optometric practice
2. Type of practice
3. Number of years optometric practice has been operating
4. Number of years optometrist has been practicing
5. Number of assistants normally employed
6. Type of training background assistant has

7. Number of graduates to be hired in 1975-77, if available

8. Level of training desired of an optometric assistant

The questions were posed with stated choices of responses. The respondent was to place a check in the blank in front of the response that best agreed with the respondent's status or feeling.

The second part of the task analysis survey form consisted of suggested tasks for which the respondent was to circle the frequency of the task and proficiency desired. The final form, containing 202 tasks, required between one and two hours to complete.

The final form designated six choices for frequency. They were:

1. Never

2. Seldom - several times per year

3. Sometimes - 5-10 times per year

4. Monthly - averages at least once per month

5. Weekly - averages at least once per week

6. Daily - averages at least once per day

These choices seemed to be sufficient to meet almost all task situations in the average optometric practice.

Six levels of proficiency choices were also available to the respondents. These were:

1. None - no knowledge of task needed

2. Some - only recognition and acquaintance with terminology

3. Limited - can assist and/or perform simple parts of task as directed by optometrist

4. Moderate - can perform task with constant guidance

5. Proficient - can perform entire task with little guidance

6. Very proficient - can initiate and perform entire task without guidance

These choices seemed to also correlate with the feelings of the respondents quite readily.

Both literature and jury members were important sources of tasks included in the task analysis survey form. A listing of the publications providing tasks is included in the appendix. The jury was used to evaluate and suggest new tasks and to make suggestions for deletion of tasks and the modification of a task for clarification.

The following is a summary of the important steps followed in construction of the task survey form and the letters used in the survey.

1. Preliminary listing of tasks was selected from literature sources and staff members.

2. Listing of preliminary tasks was submitted to each staff member for format evaluation, clarification, deletions and additions.

3. Preliminary tasks and format of tasks and survey form were revised in accordance with staff suggestions.

4. Listing of revised preliminary tasks was submitted to each jury member for format evaluation, clarification, deletions, additions, and word structure.

5. Preliminary tasks were revised in accordance to jury suggestions.

6. General preliminary information questions were formulated.

7. Tentative listing of tasks and general preliminary information questions were distributed to Lakeshore Technical Institute - Optometric Assistant Advisory Committee members for their reactions and concerns when completing the survey form.

8. Letters to accompany task analysis survey form were composed.

9. Tasks were defined and the general information questions were modified on the basis of the advisory committee members' recommendations.

10. The final form was prepared and duplicated.

Administration of the Task Analysis Survey Form

The members of the sample were informed of the task analysis survey form by letter sent approximately one week before the form itself. A sample of this letter is included in the appendix. The letter indicated the purpose of the study, an estimate of time necessary to complete the form and the endorsement by the member's professional organization.

The task analysis survey form* and a cover letter* were sent to the members of the sample population on April 11, 1974. The cover letter indicated the importance of completing the form, and provided instructions for returning it within a week. The task analysis survey form included the directions for completion.

Reminder letters* were sent to anyone whose task analysis survey form was not received by May 6. Phone calls were made to a sample of twenty persons on May 20 in an effort to determine why they had not responded. A summary of their responses is also enclosed in the appendix under Summary of Number of Responses.

To ascertain the characteristics of the non-responder, the general information page of the task analysis survey form was sent to a selected sample on May 24. A cover letter* was included which indicated the purpose of the study and details concerning the completion and returning of the form.

The data contained on returned forms was then punched on computer cards and taken to the University of Wisconsin-Stout Computer Center for processing. The printouts* were then returned for analysis and decision making.

*Copies of these are included in the Appendix.

Responses

The response was adequate for the data analysis to be reliable as 50.4% of the optometrists and 66.2% of the optometric assistants' responses were usable. This resulted in a 52.9% usable response overall.

In addition to the above, 47 returned the general information portion of task analysis survey form only. The analysis indicates that this group was similar in make-up to the group that returned the entire form.

Analysis and Implications of General Information Data

The data was analyzed in a number of ways in order to provide the information necessary to answer the questions listed in the section on "Purposes of the Study".

A number of tabulations are included here with the possible implications of such information. The analysis and implications will be presented in the same order as the items appear in the task analysis survey form. The actual tabulations can be found in the table form in the appendix.

1. How many optometrists are there in your practice?

	Optometrist	Optometric Assistant
1) one	67%	60%
2) two	43%	28%
3) three	7%	9%
4) four	1%	0%

The great majority of optometric practices within the state of Wisconsin have only one optometrist. This is based on the responses of the optometrists and optometric assistant. Next in frequency is optometrist practice with two optometrists. Those practices having three or more optometrists made up only about 10% of the total.

The assistant will find that she will most likely find employment in either of the first two categories (single or partnership). Her training should reflect the range of duties usually associated with these. The curriculum should provide instruction and experiences appropriate for these as well. The low percentage of assistants employed in offices with three or more optometrists indicates that no special effort should be made to modify the program's curriculum in that direction.

2. What best characterized your type of practice?

	Optometrist	Optometric Assistant
1) general practice (primarily examining and dispensing)	9%	12%
2) general practice plus some contact lens work	82%	84%
3) primarily a contact lens practice	2%	5%
4) contact lens and vision training practice with little general practice	2%	0%
5) vision training practice with some general practice	5%	0%

The type of practice most generally found is the general practice with some contact lens work in Wisconsin. The general practice category was a distant second with about 10% of the responses. The others had responses of 5% or less.

The implication here is that training primarily in the areas of knowledge and skills utilized in general practices and in contact lens practices would be most important to be offered in a training program. The majority of the curriculum should center in these areas.

3. How many years has your practice been operating?

	Optometrists	Optometric Assistants
1) 0 - 2 years	8%	5%
2) 3 - 5 years	3%	7%
3) 6 - 10 years	9%	15%
4) 11 - 15 years	9%	24%
5) more than 15 years	70%	49%

A significant difference in responses between optometrists and optometric assistants was evident on this question. Over 70% of the optometrists were in practices that had been in operation for more than 15 years. The other categories had responses from 14% down to 2% with a trend toward a correlation of the lower percentage with the fewer years that practice has been operating.

The responses from the optometric assistants correlated with the number of years that practice had been in operation from a high of 49% in more than 15 years to a low of 5% for 0 - 2 years.

This gives some indication that the optometric assistants are being employed to a similar extent in practices of various years of operation.

4. How many years have you been practicing optometry?

	Optometrists	Optometric Assistants
1) 0 - 2 years	10%	44%
2) 3 - 5 years	7%	21%
3) 6 - 10 years	12%	26%
4) 11 - 15 years	8%	9%
5) more than 15 years	64%	0%

The large majority of optometrists have been practicing for more than 15 years. As in #3, the responses from the other categories were around the 10% level but seemingly followed no set pattern.

The data indicates that almost two-thirds of the assistants have been employed for five years or less. Less than 10% have been employed for more than ten years. The changing attitude in favor of greater utilization of paraprofessionals in the optometric practice and availability of trained assistants are two factors most likely responsible for the high percentage within the last 10 years.

5. How many assistants are normally employed by your practice?

	Optometrists	Optometric Assistants
1) none	6%	2%
2) one	36%	28%
3) two	31%	47%
4) three	16%	19%
5) more than three	12%	5%

Most optometric offices employ either one or two assistants. The sample responses indicate an estimated 260 assistants employed. Extending this data to the entire state indicates that approximately 700 optometric assistants are employed by optometrists in Wisconsin.

6. How many of your assistants are diploma graduates?

1)	none	76%
2)	one	16%
3)	two	6%
4)	three	1%
5)	more than three	0%

7. How many of your assistants are self-trained in your practice?

1)	none	11%
2)	one	0%
3)	two	0%
4)	three	0%
5)	four	0%

This data implies that a considerable amount of time and effort on the part of Wisconsin optometrists is spent in training assistants for their practices. Although it is possible that some assistants have attended schools or workshops of short durations (usually two to three weeks), most of the training was done by the optometrist.

Because of the nature of most on-the-job training in health occupations, a sparcity of education in background theory for most of these present assistants is indicated. There is a need for a cooperative effort of the Wisconsin Optometric Association, the Optometric Assistants of Wisconsin, and Lakeshore Technical Institute in providing the opportunity for these assistants to gain additional theory education. A feasibility study for this type of venture should be undertaken.

8-11. How many diploma graduates would you anticipate hiring during: 8. 1974-75; 9. 1975-76; 10. 1976-77; 11. 1977-78, if trained assistants would be available?

		1974-75	1975-76	1976-77	1977-78	Total Assistants
1)	one	48	45	39	35	167
2)	two	2	2	2	3	18
3)	three	0	0	1	1	6
Total Assistants		52	49	46	44	191

When expanded to the total number of optometrists in the state, the prediction can be made that approximately 120 assistants will be hired during each of the next four years. In all probability, this number will be made up of trained diploma graduates of optometric assistant programs, supplemented by other health occupation diploma graduates and high school graduates trained on the job.

The number to be hired over the next four years tends to support the change in the number of LTI Paraoptometric program entry dates which will increase the number of available graduates from the present maximum of 24 to a maximum of 40 per year. The new Lakeshore Technical Institute Health Core Curriculum will permit the Paraoptometric Program to graduate a maximum of 20 optometric students each January and June. Optometrists primarily interested in employment of persons only trained in business office skills may secure the services of certificate graduates from the core portion of the Health Core Curriculum.

12. If you were to hire an assistant during the next few years, which of the following levels of certification would you desire the assistant to have?

1) certified person not wanted for position

2) not interested in certification status of assistant

3) completed most of requirements to be eligible to take the certification examination

4) eligible to take the certification examination

5) full certification status

Of the optometrists responding, 45% indicated that they would prefer to hire a certified assistant. Another 20% indicated that they would prefer that the assistant be eligible to take the certification examination, even though the person need not have completed it. Another 20% indicated that they would prefer to have an assistant that has completed most of the requirements for certification, if not all of them. Only 16% indicated that they were either not interested in the assistant's certification status or did not want a certified person as an assistant.

The underlying reason for the strong interest in the certification of assistants is probably two-fold. First, it is an indication of the level of proficiency expected of the assistants. Secondly, and probably most important, is the emphasis on some evidence of competence in paraoptometric tasks. This indicates that as a whole the optometrists believe that certification of those individuals engaged in ophthalmic care is just as important or more important than certification in other fields, such as auto mechanics, welding, or dental assisting.

The data clearly indicates that the curriculum of any optometric program must include the knowledge and skills necessary for the graduate to satisfactorily complete certification requirements. It is recommended that the program itself be able to meet or exceed the minimum standards set up by a certifying agency.

Analysis and Implications of Tasks Data

The investigator is making no attempt to interpret the data that is presented in the task portion of the survey. It is felt that this is to be the responsibility of the persons charged with the responsibility of the development of the curriculum. For this reason only several summaries will be included in addition to the computer print-out tabulation of the raw data and the mean and standard deviation for the frequency and proficiency for the items which are included in the appendix.

Several respondents commented on the length of the instrument and, even though it was designed for easy answering, the length of time required to complete it. This could be the main explanation for the 53% return of the entire task analysis instrument while another 47 readily responded to a single general information page.

The tasks were listed in fourteen categories which represented the major areas of responsibilities of an assistant. The survey form was organized this way to make it easy for the respondent to complete. This arrangement should also make it easier for the curriculum developers and others interested in analyzing the data.

The fourteen categories are:

1) Reception of Patients and Visitors
2) Public Relations
3) Secretarial
4) Scheduling Patients
5) Patient Records
6) Office Management
7) Bookkeeping and Billing
8) Handling Finances
9) Emergency and Safety
10) Examining Room
11) Dispensing
12) Laboratory Procedures
13) Patient Education
14) Role of Assistant in Examinations

One summary of the task data tabulation is the mean and standard deviation of both frequency and proficiency for each of the tasks. This summary, located in the appendix, has the tasks organized in the same way, including the statement of the task, that they were presented to the respondents.

Another available summary is the computer printout. The manner in which the data was fed into the computer resulted in two computer printouts, one for the frequency and the other for the proficiency of the tasks. Both of these are included in the appendix as Optometrists and Optometric Assistant - Analysis of Frequency and Optometrists and Optometric Assistants - Analysis of Proficiency, respectively.

The tasks are identified by number but the task statement is not included in the printouts. The following information is included:

1) item number
2) number and percent of omits
3) number and percent of each response 1-6
4) mean
5) standard deviation
6) P- correlation
7) Q_1
8) Q_2
9) Q_3
10) IQR
11) total number of respondents for the item

Summary of Task Frequency

Category	Definition	Number	Per Cent
1	Never	2	1.0
2	Seldom- several times per year	37	18.3
3	Sometimes- 5 to 10 times per year	64	31.7
4	Monthly- averages at least 1 per month	64	31.7
5	Weekly- averages at least 1 per week	29	14.4
6	Daily- averages at least 1 per day	6	3.0

Summary of Task Proficiency

Category	Definition	Number	Per Cent
1	None- no knowledge of task	0	0
2	Some- only recognition and acquaintances with terminology	13	6.4
3	Limited- can assist and/or perform simple parts of task as directed by optometrist	53	26.2
4	Moderate- can perform task with constant guidance	75	37.1
5	Proficient- can perform entire task with very little guidance	59	29.2
6	Very Proficient- can initiate and perform entire task without guidance	2	1.0

Selection of tasks to be included in the curriculum, and the emphasis to be placed on them, can not be based on the frequency or proficiency alone. An example which indicated the folly of this approach is a task in first aid which might have a low frequency because of the nature of the task even though the proficiency required might be high. An assistant must be capable of handling the situation even though it might never occur. The curriculum developer will therefore have to construct a selection guide which gives relative weights to both.

Upon examination of the data one finds a number of omits for tasks within certain categories. Although it is possible that errors were introduced during the key punching and processing, the explanation is that most omits were from respondents in an optometric practice that

did not involve itself in the activities of that particular category. The respondents did not respond to tasks within the category because they did not feel that their experience could justify a specific response.

Category #1, Reception of Patients, was unique because the mean for the responses of frequency and proficiency was at the 4 level- monthly and moderately, respectively for all tasks except 1.01. This task had a mean response level of 5- weekly and proficient, respectively.

Most of the responses in Category #14, Role of Assistant in Examining, were at the 2 and 3 levels for both frequency and proficiency, seldom and sometimes and some and limited, respectively. This indicates that the assistant's role in most examinations would be very limited. One respondent's comment referred the researcher to the state regulations on optometry which outline the responsibility of optometrist.

Responses to tasks within other categories were scattered. No pattern could be established within categories or between categories, while correlations between frequency and proficiency were found in categories 1 and 14, no such correlations were found within the other categories. The indication here is that each task must be treated individually rather than collectively in a category when decisions on inclusion and emphasis are made.

Only two tasks were found to be universally high for both frequency and proficiency, as they were given a 6 level of response in both. These two are applicable for all types of practices. The two are #4.01- Make Appointments for New Patients and #8.04- Accept and post payments received to patient ledger card for payments on account (cash, check, credit card).

Further analysis will be conducted during the fall of 1974 for the purpose of establishing the tasks and levels of emphasis for the Health Core Curriculum- Optometric Assistant Program at Lakeshore Technical Institute. The results of the curriculum development will be evaluated at intervals to determine if the decisions and recommendations based on the analysis of the data are supported with additional data obtained at later dates.

Appendix

I. Correspondence 18

1. Invitation to serve as jury member
2. Request for Wisconsin Optometric Association endorsement
3. Wisconsin Optometric Association reply
4. Request for American Optometric Association assistance
5. American Optometric Association reply (2)
6. Request for names of Optometric Assistants
7. Instructions for jury members
8. Instructions for advisory committee members
9. Endorsement letter - Wisconsin Optometric Association
10. Endorsement letter - Optometric Assistants of Wisconsin
11. Optometrist - Preliminary letter
12. Optometric Assistant - Preliminary letter
13. Optometric - Cover letter for task analysis survey form
14. Optometric Assistant - Cover letter for task analysis survey form
15. Instructions for jury members for task analysis survey form
16. Optometrist - Reminder letter
17. Optometric Assistants - Reminder letter
18. Optometrist - Cover letter for general information portion only

II. Task Analysis Survey Form. 39

III. Summary of Number of Responses 56

IV. Summary of General Information Responses 57

V. Summary of Task Responses. 60

VI. Optometrists and Optometric Assistants - Analysis of Frequency 74

VII. Optometrists and Optometric Assistants - Analysis of Proficiency 88

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

September 26, 1973

Dear Dr. ----------:

A few years ago, Lakeshore Technical Institute developed a new program designed to train assistants for the optometric office. The initial survey of tasks that such an assistant could perform was conducted in 1966. The results were used in developing the original program.

During the past few years, a number of changes have taken place both in the instruments and equipment available in the office and the doctor's attitude toward the tasks that could be entrusted to an assistant. We are attempting to produce a graduate who has had experiences that will enable her or him to perform competently within the most current framework of the profession. In order to accomplish this, we are interested in determining the tasks that are or might be performed by a trained assistant. We are attempting to determine these tasks through the use of a task analysis survey.

Because of your position and expertise in the field, we would like to enlist your help as a jury member in this important task. As a jury member, you will be called upon to react to several task analysis forms and make suggestions and additions as you see fit. These forms will be sent to you shortly.

It is unfortunate that we cannot offer remuneration for your efforts. However, we can offer publicity in resultant reports and publications and the satisfaction of having contributed to a valuable development in your own field. We will also share the results of our survey with you.

Please complete the enclosed form before October 5 and mail it in the enclosed envelope. If for some reason you find that you are unable to function in the capacity as a jury member, we would appreciate it if you would give this to a colleague for consideration.

Thank you for your assistance in this study.

Sincerely,

Marvin A. Schrader
Curriculum Specialist

mjs

Enclosures (2)

I accept the appointment to your Optometric Assistant Task Analysis Jury.

Signature	Current Position
School or Practice	Office Phone Number

Address

September 23, 1973

Dr. Jack Fitzgerald, President
Wisconsin Optometric Association
Six South Carroll Street
Madison, WI 53073

Dear Dr. Fitzgerald:

A few years ago your association was very instrumental in developing the Optometric Assistant Program at our school. Because of the assistance and support given by your Association in both encouragement and scholarships, it has become one of the most successful programs at our school.

We have appreciated your support and would again like to enlist the cooperation and assistance of your Association in assessing the needs and desires of the optometrists of Wisconsin. Such a survey was last conducted in 1966. As you well know, the changes that have taken place in the instruments, equipment, techniques and the attitudes toward using an assistant during the interim years have been tremendous. Therefore, we would like to again survey the optometrists using a prepared task analysis form which they could complete and return. This would enable us to update our present program and make it even more worthwhile for the graduates and the optometric professional in Wisconsin.

In order to ensure a worthwhile survey result, we would like to obtain the names and addresses of optometrists within the state, several optometrists willing to assist us in the development of the survey form, and a letter of endorsement which could be included with the survey forms sent to the optometrists.

We would also like to include the assistants in the survey as they are actually doing the tasks. The difficulty of obtaining names of assistants other than our own graduates is creating some concern among our faculty. I would appreciate having some of your insights as to how this problem might be solved or lessened.

I would appreciate reactions and suggestions that you might have in regard to this proposal. You may contact me either by letter or by calling 414-458-4183, Ext. 50 for additional information or clarification.

Thank you for your personal assistance in this study.

Sincerely,

Marvin A. Schrader
Curriculum Specialist

mjs

WISCONSIN OPTOMETRIC ASSOCIATION

GEORGE J. WHITE
EXECUTIVE DIRECTOR

Affiliated with American Optometric Association

• 119 MONONA AVENUE • MADISON, WISCONSIN 53703 • PHONE: AREA 608/257-1907

October 5, 1973

Mr. Marvin A. Schrader
Lakeshore Technical Institute
843 Jefferson Avenue
Sheboygan, Wisconsin 53081

Dear Mr. Schrader:

Doctor Fitzgerald has asked me to respond to your letter of September 23rd. We will cooperate with your proposed survey of optometrists and assistants in Wisconsin. We would suggest that you use the Advisory Committee to help you prepare the survey. The best source of names of optometric assistants in Wisconsin is Jackie Maki, %Vaslow and Schilling, O.D.s, 423 Jay Street, LaCrosse, Wisconsin. She is one of the organizers of the Wisconsin Optometric Assistants Association. We can supply you with the names and addresses of all the optometrists in the State, or if you prefer, you can mail the envelopes to us and we will address them for you directly from our addressograph plates. When your survey form is completed, if you will mail a copy to us, we will prepare a letter of endorsement to be enclosed with it.

Sincerely,

George J. White

GEORGE J. WHITE
Executive Director

GJW/mlj

cc: U. T. Fitzgerald, O.D.

October 18, 1973

Robert E. Day, O.D.
3034 Broadway
Garland, TX 75040

Dear Dr. Day:

Lakeshore Technical Institute has the only Optometric Assistant Program in Wisconsin. A very general survey of tasks that such an assistant could perform was conducted in 1966. The results were then used in developing the original program.

During the past few years, a number of changes have taken place, both in the instruments and equipment available in the office and the doctor's attitude toward the tasks that could be entrusted to such an assistant. We are attempting to produce a graduate who has had experiences that will enable her or him to perform competently within the most current framework of the profession. In order to accomplish this, we are interested in determining the tasks that are or might be performed by a trained assistant. We are attempting to determine these through the use of a task analysis survey.

I would like to modify, add, and delete from an existing task analysis survey form if possible. However, I have not been able to find an instance where such a survey has been done, either for the optometric assistant or for the optometrist. Therefore, I would appreciate it greatly if you could forward any information that you or your association may have that pertains to any such studies that have been carried on.

I have already enlisted the assistance of the Wisconsin Optometric Association for which we are deeply grateful. Additional individual members of your association have also volunteered their services as jury members for the survey form itself. These actions indicate the interest being generated in the optometric assistant position which is becoming an integral part of the optometric practice.

Thank you in advance for any assistance that you may be able to give in regard to this survey.

Sincerely,

Marvin A. Schrader
Curriculum Specialist

mjs

cc: Bernard J. Shanon, O.D.

AMERICAN OPTOMETRIC ASSOCIATION

PRESIDENT
ROBERT E. DAY, O.D.
3034 BROADWAY
GARLAND, TEXAS 75041

October 24, 1973

Mr. Marvin A. Schrader
Lakeshore Technical Institute
843 Jefferson Avenue
Sheboygan, Wisconsin 53081

Dear Mr. Schrader:

Thank you for your letter regarding your proposed task analysis survey.

I am sending your letter to Mr. J. Harold Bailey, the Executive Director of the American Optometric Association, and I am sure that he will be in contact with you.

We will certainly cooperate in any way and Mr. Bailey will send any pertinent information which we might have compiled.

Thank you very much.

Sincerely yours,

Robert

Robert E. Day, O.D.

RED:bw
CC: Mr. J. Harold Bailey
Dr. Bernard J. Shannon

ADMINISTRATIVE OFFICE 700 CHIPPEWA STREET • ST. LOUIS, MO. 63119 • AREA CODE 314-832-5770
WASHINGTON OFFICE 1270 24 STREET N.W. • WASHINGTON, D.C. 20036 • AREA CODE 202 833-9890

AMERICAN OPTOMETRIC ASSOCIATION

DIVISION OF EDUCATION
AND
MANPOWER
ELLIS S. SMITH, JR., Director

December 19, 1973

Mr. Marvin A. Schrader
Lakeshore Technical Institute
843 Jefferson Avenue
Sheboygan, WI 53081

Dear Mr. Schrader:

This letter is in response to your inquiry regarding your proposed task analysis survey.

Enclosed is a copy of "A National Study of Assisting Manpower in Optometry," published in August, 1971. This study provides a comprehensive listing of possible tasks to be performed by the technician.

For more information, I recommend that you get in touch with Jerald W. Strickland, O.D., Indiana University, Division of Optometry, Bloomington, Indiana 47401, Chairman of our AOA Committee on Paraoptometric Personnel.

Please let me know if I can be of further assistance.

Sincerely yours,

Ellis S. Smith, Jr.

ESS/d/143

Enclosure

cc: R. E. Day, O.D.; B. J. Shannon, O.D.;
J. W. Strickland, O.D.; J. H. Bailey

ADMINISTRATIVE OFFICE 7000 CHIPPEWA STREET • ST. LOUIS, MO 63119 • AREA CODE 314-832-5770
WASHINGTON OFFICE 1730 M STREET N.W. • WASHINGTON, D.C. 20036 • AREA CODE 202 833-9890

October 29, 1973

Miss Jackie Maki
% Vaslow & Schilling, O.D.s
423 Jay Street
LaCrosse, Wisconsin

Dear Miss Maki:

Mr. George White, Executive Director of the Wisconsin Optometric Association, has referred me to you in my attempt to obtain the names of optometric assistants within the state. By the time you read this, you will also have had a chance to talk to Dr. Paulette Schmidt, one of our own staff members. She has also referred me to you because of your part in the organization of the optometric assistants in Wisconsin.

Our Optometric Assistant Program is the only one in the state. A few years ago, Lakeshore Technical Institute developed a new program designed to train assistants for the optometric office. The initial survey of tasks that such an assistant could perform was conducted in 1966. The results were used in developing the original program.

During the past few years, a number of changes have taken place, both in the instruments and equipment available in the office and the doctors' attitudes toward the tasks which could be entrusted to an assistant. We are attempting to produce a graduate who has had experiences that will enable him or her to perform competently within the most current framework of the profession. In order to accomplish this, we are interested in determining the tasks that are or might be performed by a trained assistant. We are attempting to determine these tasks through the use of a task analysis survey.

We plan to survey as many Wisconsin optometrists and their assistants as can be located in this state. The Wisconsin Optometric Association is supplying the names of optometrists within the state. I am hoping that you might be able to send names and addresses of as many optometric assistants that you might be able to.

Because of your expertise in the optometric assisting field, I would also like to enlist your help as a jury member in the important task of setting up the task analysis survey. As a jury member, you will be called upon to react to several task analysis forms and make suggestions and additions as you see fit. These forms will be sent to your shortly.

It is unfortunate that we cannot offer remuneration for your efforts. However, we can offer personal recognition in resultant publications and the satisfaction of having contributed to a valuable development in your own field. We will also share the results of our survey with you.

Please complete the enclosed form and the list of names and addresses before November 8 and mail it in the enclosed envelope.

Thank you for your assistance in this study. It will be greatly appreciated by the members of our optometric assistant instructional staff.

Sincerely,

Marvin A. Schrader
Curriculum Specialist

mjs

Enclosures (2)

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN
843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

November 12, 1973

Harold Halfin, Ed. D.
Director, Ed. Specialist Program
University of Wisconsin-Stout
Menomonie, WI 54751

Dear Dr. Halfin:

I want to express my appreciation to you for your willingness to serve as a jury member on our Optometric Assistant Task Analysis. Your help and cooperation will assist greatly in the clarification of the role of the Optometric Assistant and an Optometric practice and in the structuring of the Para-Optometric Program curriculum.

Enclosed is a Tentative Task Analysis form. Because it is important that the form communicate in the language of Optometry, please feel free to question, criticize, modify, crossout, and/or add as you see fit. The following questions are only suggested as a guide.

1. Is the format practical?
2. Are the instructions clear?
3. Is the description of the task complete?
4. Is the correct terminology used?
5. Is it easy to answer using the response choices given?
6. Is the task suited to the section to which it has been assigned?

React to the task description itself; do not rate the "frequency" or "proficiency" at this time, because these columns are included to illustrate the format being considered.

Make your reactions, changes and suggestions directly on the form. Five blanks have been provided after each section for adding tasks which you feel should be added or transferred from other sections. Additional comments should also be written directly on the form. Use the back or attach a separate sheet if you find that not enough space has been provided.

Here:
Right [illegible] [illegible] [illegible] not understand Task 8.15.
Since my remarks [illegible] not be appropriate, I
will keep [illegible] [illegible] for the record.
Harold

Please return the form with your reactions and comments in the enclosed, return envelope by November 23. May I again thank you for your willingness to help. Your insight will provide guidance and impetus to the development of a sound and comprehensive task survey.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

dag

enc. Task Analysis Form
Return Envelope

Dr. Halfin,

This is mainly to keep you up to date but any comments will be welcome.

thanks,

Marv

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

February 14, 1974

Mrs. Kathy Wagner
332-1/2 Park Street
Plymouth, WI 53073

Dear Mrs. Wagner:

Enclosed is a tentative Task Analysis Form. I would like to enlist your services, as Paraoptometric Advisory Committee member, to react to the form. I would like you to complete the form and as you are completing the form note any difficulties in interpretation or wording. Please return the completed form to me in the enclosed, postpaid envelope by February 25, 1974.

If you find it difficult to respond to a particular question or task, answer it as you think it might most often be interpreted by other optometrists and optometric assistants. In addition, please note your concern on the form. Use the back or attach a separate sheet if you find that not enough space has been provided. I would also appreciate either a call at 458-4183, Ext. 50 or a meeting with you for the purpose of discussing any reactions you might have.

Thank you for your concern for the Paraoptometric Program at Lakeshore Technical Institute. It is only through the dedication of persons like yourself that the program is successful.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

MAS:nrr

Enclosures (2): Task Analysis Form
Return Envelope

Some of the tasks are only done when a patient requires them. It is hard to exact a frequency. Depend on practice of doctor. On last page have done most of tests but it depends when I have to perform them.

WISCONSIN OPTOMETRIC ASSOCIATION WOA

5721 ODANA ROAD · MADISON, WISCONSIN 53719 · PHONE: AREA 608/274-4322

March 11, 1974

TO: ALL WISCONSIN OPTOMETRISTS

Dear Doctor:

The enclosed Paraoptometric (Optometric Assistant) Task Analysis Survey has the approval of the Wisconsin Optometric Association. The analysis jury members who participated in preparing this questionnaire include - Doctors K. H. Gibson, A. L. Lindell, Paulette Schmidt, J. R. Sonnenburg, and myself from Wisconsin. I urge your cooperation in completing and returning the form. The information provided will be valuable in planning the curriculum for optometric assistants.

Sincerely,

Jack T Fitzgerald

JACK T. FITZGERALD, O.D.
President

JTF/jat

March 19, 1974

TO: ALL WISCONSIN OPTOMETRIC ASSISTANTS

Dear Assistant:

The enclosed Paraoptometric Task Analysis Survey has the approval of the Association of Optometric Assistants of Wisconsin.

The assistants serving as analysis jury members, who participated in preparing this questionaire, include Jackie Maki, La Crosse, and Rita Blanke, Sheboygan.

Please complete and return the survey, the information provided is to be used in planning the curriculum for the optometric assistants course.

Sincerely,

Marion Krane

Marion Krane
President

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

April 5, 1974

Dear Optometrist:

The Wisconsin Optometric Association was instrumental in starting the Optometric Assistant Program at Lakeshore Technical Institute and has supported the program with advisory committee members and student scholarships since its beginning in 1967.

A number of changes in the operation of the optometric practice and the use of assistants have occurred since the program's inception. It is very important to the optometric profession to assess the duties assigned to or anticipated for the optometric assistants. The educational program should reflect these duties so that qualified optometric assistants are available to fill the optometrist's needs.

The Wisconsin Optometric Association is endorsing a State of Wisconsin-Lakeshore Technical Institute Task Survey to determine the duties of the optometric assistant in Wisconsin. This survey will be sent to you within the next week. It will take about two hours to complete. It was determined by the members making up the survey that fewer questions and less time involved would not make the survey useful.

We would hope that you would find the time to complete the form so that the results can truly represent the profession in Wisconsin. Thank you for your assistance in this project.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

mjs

Enc. - Endorsement Letter

LAKESHORE Technical Institute
VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

Frederick J. Nierode
District Director

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

April 12, 1974

Dear Optometric Assistant of Wisconsin Member:

The optometric profession was instrumental in starting the Optometric Assistant Program at Lakeshore Technical Institute and has supported the program with advisory committee members and student scholarships since the beginning of 1967.

A number of changes in the operation of the optometric practice and the use of assistants have occurred since the program's inception. It is very important to the optometric profession to assess the duties done by you in the practice. The training program should reflect those duties so that new optometric assistants will be available to work with you in assisting the optometrist.

The Optometric Assistant of Wisconsin Association is endorsing a State of Wisconsin-Lakeshore Technical Institute Task Survey to determine the duties of the optometric assistant in Wisconsin. This survey will be sent to you within the next week. It will take about two hours to complete. It was determined by the members making up the survey that fewer questions and less time involved would not make the survey useful.

We would hope that you could find time to complete the form so that the results can truly represent the profession.

Thank you for your assistance in this study.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

dag

Enc. - Endorsement Letter

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN
843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

April 10, 1974

Dear Optometrist:

Lakeshore Technical Institute is the only technical institute in Wisconsin charged with the responsibility of training optometric assistants in the state. Your assistance is essential to the evaluation of our Optometric Assistant Program. Please complete the enclosed questionnaire within five days and return in the enclosed envelope.

I realize that there are many demands on your time. Please understand that this is of vital importance to the optometric profession in Wisconsin. You, as a member of the Wisconsin Optometric Association, have supported the program through yearly scholarships, and your officers have endorsed this survey. (See enclosed letter.) The Wisconsin Vocational, Technical and Adult Education Board has also approved funds for this study. Your response is necessary in order for the survey to be as useful as possible.

We are also making an attempt to determine the employment market for our graduates so that we might make adjustments in the program so that a realistic supply of graduates might be maintained. It is for this reason that additional information is being asked concerning your practice. All responses will be kept strictly confidential and additional comments regarding the program are welcome.

If you have any questions, please contact me at the above address, or call me at 414-458-4183, Ext. 50.

Thank you for your assistance in this very important effort. I will be happy to share pertinent results of the study with you once the responses have been tabulated.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

dag

enc. 3 - Wisconsin Optometric Association Letter
Task Analysis Form
Return Envelope

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

April 15, 1974

Dear Optometric Assistant:

Lakeshore Technical Institute is the only technical institute charged with the responsibility of training optometric assistants in the state of Wisconsin. Your assistance is essential to the evaluation of the Optometric Assistant Training Program at our school. Please complete the enclosed questionnaire within one week and return it in the enclosed envelope.

I realize that there are many demands on your time. Please understand that this is of vital importance to the optometric assistant's identity in Wisconsin. Your employer, through the Wisconsin Optometric Association, has endorsed this study. The officers of your newly formed organization, the Optometric Assistants of Wisconsin, have endorsed this survey, (see enclosed letters). The Wisconsin Vocational, Technical and Adult Education Board has also approved funds for this study. Your response is necessary in order for this survey to be as useful as possible.

All responses will be kept strictly confidential and additional comments regarding the program are welcome.

If you have any questions, please contact me at the above address or call me at 414-458-4183, Ext. 50.

Thank you for your assistance in this very important effort. I will be happy to share the pertinent results of the study with you once the responses have been tabulated.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

dag

enc. 4 - Optometric Assistants of Wisconsin Endorsement Letter
Wisconsin Optometric Association Endorsement Letter
Task Analysis Form
Return Envelope

April 23, 1974

Arol Augsburger, O.D.
Clinical Coordinator
College of Optometry
Ohio State University
352 West 10th Street
Columbus, OH 43210

Dear Dr. Augsburger:

The enclosed task analysis has now been sent to the optometrists and optometric assistants within the state of Wisconsin. The analysis form represents the culmination of a great deal of thought and dedication by many persons, including yourself, for which I am deeply grateful.

I would like to ask one more favor of you. Please complete one of the task analysis forms, from your perception of the tasks that the optometric assistant could perform. Return it in the enclosed envelope. You may keep the other one for future reference.

Your assistance in this entire project has been extremely helpful in designing a survey form that should be very useful in curriculum development for the Optometric Assistant Program at Lakeshore Technical Institute. Again, I thank you for your willingness to assist in this project.

I will send you a copy of the report when the results have been tabulated and recommendations made.

Sincerely,

Marvin A. Schrader
Curriculum Specialist

MS:hb

Enclosures (5) Task Analysis Forms (2)
Return Envelope
Endorsement Letters (2)

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

Dear Optometrist:

Remember that yellow Optometric Assistant Task Analysis Form that you put away for completing at a later date? It's important that your response be included in the study. Please complete it now and return it in the envelope that was provided.

Please accept my thanks if it is already in the mail.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

mjs

LAKESHORE Technical Institute

Frederick J. Nierode
District Director

VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN

843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

Dear Optometric Assistant:

Remember that yellow Optometric Assistant Task Analysis Form that you put away for completing at a later date? It's important that your response be included in the study. Please complete it now and return it in the envelope that was provided.

Please accept my thanks if it is already in the mail.

Sincerely,

Marvin A. Schrader

Marvin A. Schrader
Curriculum Specialist

mjs

LAKESHORE Technical Institute
VOCATIONAL, TECHNICAL AND ADULT EDUCATION-DISTRICT ELEVEN
843 JEFFERSON AVENUE PHONE 414-458-4183
SHEBOYGAN, WISCONSIN - 53081

Frederick J. Nierode
District Director

May 24, 1974

Dear Optometrist:

I am presently conducting a survey concerning the utilization of optometric assistants in the State of Wisconsin. This study is of vital concern to the operation of our Optometric Assistant Program. The study has the endorsement of the Wisconsin Optometric Association, which has supported the program at our school.

Won't you please take a few minutes out of your busy schedule to complete these few questions and return them in the envelope provided by June 1.

Thank you for your assistance in this important survey.

Sincerely,

Marvin A. Schrader
Curriculum Specialist

MAS/all

Enclosures

OPTOMETRIC PRACTICE INFORMATION - OPTOMETRIST

Your responses to the following information concerning your practice will enable the information to be analyzed in an effort to establish optometric practice patterns and trends in the manner in which assistants are used and the tasks performed by them. Please answer the following questions by inserting a ✔ in the space before the number or statement that best agrees with your answer.

1. How many optometrists are there in your practice?

   1) ___one; 2) ___two; 3) ___three; 4) ___more than three.

2. What best characterizes your type of practice?

   1) ___general practice (primary examining and dispensing).

   2) ___general practice plus some contact lens work.

   3) ___primarily a contact lens practice.

   4) ___contact lens and vision training practice with little general practice.

   5) ___vision training practice with some general practice.

3. How many years has your practice been operating?

   1) ___0 - 2; 2) ___3 - 5; 3) ___5 - 10; 4) ___10 - 15; 5) ___more than 15.

4. How many years have you been practicing optometry?

   1) ___0 - 2; 2) ___3 - 5; 3) ___5 - 10; 4) ___10 - 15; 5) ___more than 15.

5. How many assistants are normally employed by your practice?

   1) ___none; 2) ___one; 3) ___two; 4) ___three; 5) ___more than three.

6. How many of your assistants are diploma graduates?

   1) ___none; 2) ___one; 3) ___two; 4) ___three or more.

7. How many of your assistants are self-trained in your practice?

   1) ___none; 2) ___one; 3) ___two; 4) ___three or more.

8. How many diploma graduates would you anticipate hiring during 1974-75, if trained assistants would be available?

   1) ___none; 2) ___one; 3) ___two; 4) ___three.

9. How many diploma graduates would you anticipate hiring during 1975-76, if trained assistants would be available?

1) ___none; 2) ___one; 3) ___two; 4) ___three.

10. How many diploma graduates would you anticipate hiring during 1976-77, if trained assistants would be available?

1) ___none; 2) ___one; 3) ___two; 4) ___three.

11. How many diploma graduates would you anticipate hiring during 1977-78, if trained assistants would be available?

1) ___none; 2) ___one; 3) ___two; 4) ___three.

12. If you were to hire an assistant during the next few years, which of the following levels of certification would you desire the assistant to have?

1) ___certified person not wanted for position.

2) ___not interested in certification status of assistant.

3) ___completed most of requirements to be eligible to take the certification examination.

4) ___eligible to take the certification examination.

5) ___full certification status.

OPTOMETRIC PRACTICE INFORMATION - ASSISTANT

Your responses to the following information concerning the practice in which you are employed will enable the information to be analyzed in an effort to establish optometric practice patterns and trends in the manner in which assistants are used and the tasks performed by them. Please answer the following questions by inserting a ✓ in the space before the number or statement that best agrees with your answer.

1. How many optometrists are there in the practice in which you are employed?

   1) ___one; 2) ___two; 3) ___three; 4) ___more than three.

2. Which best characterizes the type of practice in which you are employed?

   1) ___general practice (primarily examining and dispensing).

   2) ___general practice plus some contact lens work.

   3) ___primarily a contact lens practice.

   4) ___contact lens and vision training practice with little general practice.

   5) ___vision training with little general practice.

3. How many years has the practice been operated by the present optometrist(s)?

   1) ___0 - 2; 2) ___3 - 5; 3) ___5 - 10; 4) ___10 - 15; 5) ___more than 15.

4. How many years have you been employed as an assistant?

   1) ___0 - 2; 2) ___3 - 5; 3) ___5 - 10; 4) ___more than 10.

5. How many assistants are normally employed in the practice in which you are employed?

   1) ___none; 2) ___one; 3) ___two; 4) ___three; 5) ___more than three.

6. Which describes the manner by which you obtained your present optometric knowledge and skills?

   1) ___diploma program of a school.

   2) ___trained in an optometric practice.

PARAOPTOMETRIC (OPTOMETRIC ASSISTANT) TASK ANALYSIS SURVEY
1973-74

DIRECTIONS:

Please circle the number after the statement of the task that most nearly agrees with your assessment of the performance done by the assistant in your practice or, if you have no assistant, tasks that could be performed by a trained assistant. Both "proficiency" and "frequency" of the task are to be indicated. If you have a question or comment, please indicate it between items or on an attached sheet.

The following indicates the definitions of the assessments to be used:

Frequency of Performance:

1 - Never
2 - Seldom - several times per year
3 - Sometimes - 5 to 10 times per year
4 - Monthly - averages at least 1 per month
5 - Weekly - averages at least 1 per week
6 - Daily - averages at least 1 per day

Proficiency Needed by Assistant:

1 - None - no knowledge of task
2 - Some - only recognition and acquaintances with terminology
3 - Limited - can assist and/or perform simple parts of task as directed by the optometrist
4 - Moderate - can perform task with constant guidance
5 - Proficient - can perform entire task with very little guidance
6 - Very Proficient - can initiate and perform entire task without guidance

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
SAMPLE	Types recall letters for patients	1	2	3	4	(5)	6	1	2	3	4	5	(6)

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
1.	Reception of Patients and Visitors												
1.01	Greet patient and confirm appointment date and time.	1	2	3	4	5	6	1	2	3	4	5	6
1.02	Interview new patient to complete a registration form.	1	2	3	4	5	6	1	2	3	4	5	6
1.03	Interview patient for insurance or other third party sponsorship information.	1	2	3	4	5	6	1	2	3	4	5	6
1.04	Complete patient screening.	1	2	3	4	5	6	1	2	3	4	5	6
1.05	Obtain signature for assignment of insurance payment to optometrist and signature authorization for release of information.	1	2	3	4	5	6	1	2	3	4	5	6
1.06	Escort patient to examination or frame fitting room.	1	2	3	4	5	6	1	2	3	4	5	6
1.07	Maintain clean and orderly office. (Empty ashtrays, reorganize magazines, etc.)	1	2	3	4	5	6	1	2	3	4	5	6
1.08	Receive non-patients.	1	2	3	4	5	6	1	2	3	4	5	6
1.09	Entertain children waiting for patients.	1	2	3	4	5	6	1	2	3	4	5	6
2.	Public Relations												
2.01	Receive calls and answer questions from patients or potential patients.	1	2	3	4	5	6	1	2	3	4	5	6
2.02	Answer general questions from patient and potential patients that relate to the practice.	1	2	3	4	5	6	1	2	3	4	5	6
2.03	Explain fees to patients.	1	2	3	4	5	6	1	2	3	4	5	6
2.04	Answer letters from patients, upon approval of content by optometrist.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
2.05	Attend meetings and participate in community activities related to optometric practice.	1	2	3	4	5	6	1	2	3	4	5	6
2.06	Maintain personal information card index on each patient.	1	2	3	4	5	6	1	2	3	4	5	6
2.07	Explain to waiting patients what delay to expect when running behind schedule.	1	2	3	4	5	6	1	2	3	4	5	6
2.08	Send thank you letters to referral sources.	1	2	3	4	5	6	1	2	3	4	5	6
2.09	Assist patients in obtaining taxi service, etc.	1	2	3	4	5	6	1	2	3	4	5	6
3.	Secretarial												
3.01	Record vision examination information.	1	2	3	4	5	6	1	2	3	4	5	6
3.02	Take dictation in shorthand and transcribe.	1	2	3	4	5	6	1	2	3	4	5	6
3.03	Arrange travel accommodations for optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
3.04	Open and sort mail.	1	2	3	4	5	6	1	2	3	4	5	6
3.05	Answer optometrist's routine mail after screening by optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
3.06	Place and answer telephone calls for optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
3.07	Record telephone messages with time and date.	1	2	3	4	5	6	1	2	3	4	5	6
3.08	Gather data to complete statutory reports for government agencies.	1	2	3	4	5	6	1	2	3	4	5	6
3.09	Operate typical office business machines (e.g., copy machine).	1	2	3	4	5	6	1	2	3	4	5	6
4.	Scheduling Patients												
4.01	Make appointments for new patients.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
4.02	Make telephone calls to confirm patient's appointment date and time.	1	2	3	4	5	6	1	2	3	4	5	6
4.03	Arrange for next appointment before patient leaves the office.	1	2	3	4	5	6	1	2	3	4	5	6
4.04	Reschedule appointment for patient who cancels one.	1	2	3	4	5	6	1	2	3	4	5	6
4.05	Contact patients with future appointments to fill in for cancellations.	1	2	3	4	5	6	1	2	3	4	5	6
4.06	Cancel appointments for the optometrist when necessary and reschedule patient.	1	2	3	4	5	6	1	2	3	4	5	6
4.07	Make a daily list of optometrist's scheduled appointments for optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
4.08	Make a daily list of schedule appointments with other staff (visual training, etc.) for optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
4.09	Note in an appointment book scheduled times that optometrist will be away from office.	1	2	3	4	5	6	1	2	3	4	5	6
4.10	Send recall letters to patient.	1	2	3	4	5	6	1	2	3	4	5	6
4.11	Contact patient to remind patient of recall date.	1	2	3	4	5	6	1	2	3	4	5	6
4.12	Schedule people other than patients.	1	2	3	4	5	6	1	2	3	4	5	6
4.13	Schedule progress reports on patients.	1	2	3	4	5	6	1	2	3	4	5	6
5.	Patient Records												
5.01	Initiate a record file for a new patient.	1	2	3	4	5	6	1	2	3	4	5	6
5.02	Enter anecdotal notes on patient's record.	1	2	3	4	5	6	1	2	3	4	5	6
5.03	File reports and correspondence in patient's record folder.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
5.04	Pull patient's record folder for scheduled appointments.	1	2	3	4	5	6	1	2	3	4	5	6
5.05	Review patient record files for completeness and accuracy of examination results.	1	2	3	4	5	6	1	2	3	4	5	6
5.06	Update patient's address, phone number and other personal information on information form.	1	2	3	4	5	6	1	2	3	4	5	6
5.07	Provide confidential security for patient files.	1	2	3	4	5	6	1	2	3	4	5	6
6.	Office Management												
6.01	Inspect all areas and rooms for proper housekeeping, temperature, and adequate supplies.	1	2	3	4	5	6	1	2	3	4	5	6
6.02	Perform light dusting and wiping of equipment.	1	2	3	4	5	6	1	2	3	4	5	6
6.03	Arrange for maintenance and repair of equipment.	1	2	3	4	5	6	1	2	3	4	5	6
6.04	Keep an office procedure manual current.	1	2	3	4	5	6	1	2	3	4	5	6
6.05	Assist in training a new assistant.	1	2	3	4	5	6	1	2	3	4	5	6
6.06	Arrange meetings with optometrist to resolve problems.	1	2	3	4	5	6	1	2	3	4	5	6
6.07	Schedule vacations and arrange for coverage.	1	2	3	4	5	6	1	2	3	4	5	6
6.08	Participate in externship programs for Optometric Assistant training programs.	1	2	3	4	5	6	1	2	3	4	5	6
6.09	Set up inventory control and reorder levels for optometric supplies.	1	2	3	4	5	6	1	2	3	4	5	6
6.10	Order optometric and office supplies.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
6.11	Keep catalogs of supplies and equipment pertinent to optometric practice.	1	2	3	4	5	6	1	2	3	4	5	6
6.12	Prepare statistical reports in regard to patient visits and procedures.	1	2	3	4	5	6	1	2	3	4	5	6
6.13	Prepare a budget for income and expenses.	1	2	3	4	5	6	1	2	3	4	5	6
6.14	Prepare a financial report of income and expenses.	1	2	3	4	5	6	1	2	3	4	5	6
6.15	Maintain a fee schedule for services.	1	2	3	4	5	6	1	2	3	4	5	6
6.16	Develop accounting and statistical reports related to a partnership practice.	1	2	3	4	5	6	1	2	3	4	5	6
6.17	Develop accounting and statistical reports related to a group practice.	1	2	3	4	5	6	1	2	3	4	5	6
6.18	Provide additional copies of business forms or correspondence.	1	2	3	4	5	6	1	2	3	4	5	6
6.19	Attend regular staff meetings.	1	2	3	4	5	6	1	2	3	4	5	6
7.	Bookkeeping and Billing												
7.01	Complete a patient ledger card for new patients.	1	2	3	4	5	6	1	2	3	4	5	6
7.02	Receive and review copy of services after optometrist sees patient.	1	2	3	4	5	6	1	2	3	4	5	6
7.03	Prepare charge slips for services to patient.	1	2	3	4	5	6	1	2	3	4	5	6
7.04	Extract billing information from optometrist's notes.	1	2	3	4	5	6	1	2	3	4	5	6
7.05	Post entries from original entry record to patient's ledger card.	1	2	3	4	5	6	1	2	3	4	5	6
7.06	Type an itemized or coded bill and mail to patient.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
7.07	Post an adjusting entry for difference between payment accepted and the optometrist's usual fee.	1	2	3	4	5	6	1	2	3	4	5	6
7.08	Complete indemnity insurance forms for patient to submit his claim.	1	2	3	4	5	6	1	2	3	4	5	6
7.09	Complete insurance forms for filing assigned insurance claims.	1	2	3	4	5	6	1	2	3	4	5	6
7.10	Complete Medicare payment request. Form SSA-1490.	1	2	3	4	5	6	1	2	3	4	5	6
7.11	Complete Workmens Compensation Forms.	1	2	3	4	5	6	1	2	3	4	5	6
8.	Handling Finances												
8.01	Present fee at end of patient visit.	1	2	3	4	5	6	1	2	3	4	5	6
8.02	Collect payments at time of visit and make entry to an original record (cash, checks, credit card).	1	2	3	4	5	6	1	2	3	4	5	6
8.03	Establish and control petty cash fund.	1	2	3	4	5	6	1	2	3	4	5	6
8.04	Accept and post payments received to patient ledger card for payments on account (cash, check, credit card).	1	2	3	4	5	6	1	2	3	4	5	6
8.05	Make financial arrangements with patient, following standard operating procedures for the practice.	1	2	3	4	5	6	1	2	3	4	5	6
8.06	Reconcile cash count and receipts.	1	2	3	4	5	6	1	2	3	4	5	6
8.07	Prepare a bank deposit ticket.	1	2	3	4	5	6	1	2	3	4	5	6
8.08	Make bank deposits.	1	2	3	4	5	6	1	2	3	4	5	6
8.09	Reconcile bank accounts.	1	2	3	4	5	6	1	2	3	4	5	6
8.10	Process unredeemed checks returned by bank.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
8.11	Execute a promissory note for payment.	1	2	3	4	5	6	1	2	3	4	5	6
8.12	Investigate mail returned because of incorrect addresses.	1	2	3	4	5	6	1	2	3	4	5	6
8.13	Communicate with insurance companies in regard to patient claims.	1	2	3	4	5	6	1	2	3	4	5	6
8.14	Age and analyze accounts for unusual problems and abnormal trends.	1	2	3	4	5	6	1	2	3	4	5	6
8.15	Call patient or guarantor in regard to payment of bills.	1	2	3	4	5	6	1	2	3	4	5	6
8.16	Make recommendations on offers to compromise settlement of account.	1	2	3	4	5	6	1	2	3	4	5	6
8.17	Complete a creditors' claim form for deceased patients.	1	2	3	4	5	6	1	2	3	4	5	6
8.18	Complete forms to assign accounts to an outside collection agency.	1	2	3	4	5	6	1	2	3	4	5	6
8.19	Review and evaluate status reports of accounts with a collection agency.	1	2	3	4	5	6	1	2	3	4	5	6
8.20	Maintain a disbursement record to fit optometrist's practice.	1	2	3	4	5	6	1	2	3	4	5	6
8.21	Review invoices for accuracy.	1	2	3	4	5	6	1	2	3	4	5	6
8.22	Prepare checks for optometrist's signature for payments of invoices, salaries, etc.	1	2	3	4	5	6	1	2	3	4	5	6
8.23	Maintain a file of paid and unpaid invoices.	1	2	3	4	5	6	1	2	3	4	5	6
8.24	Approve invoices for payment.	1	2	3	4	5	6	1	2	3	4	5	6
8.25	Enter in a check register payments made to vendors.	1	2	3	4	5	6	1	2	3	4	5	6
8.26	Make out and sign checks, up to specified amount, for the optometrist.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
9.	Emergency and Safety												
9.01	Identify symptoms and apply first aid for shock, fainting, asphyxia, respiratory or cardiac failure, bleeding.	1	2	3	4	5	6	1	2	3	4	5	6
9.02	Handle telephone calls regarding emergencies from patient.	1	2	3	4	5	6	1	2	3	4	5	6
9.03	Seek help from qualified nurse or physician for emergencies.	1	2	3	4	5	6	1	2	3	4	5	6
9.04	Provide procedures for evacuation of patient s in case of fire or other emergency.	1	2	3	4	5	6	1	2	3	4	5	6
9.05	Inspect practice so that office and laboratory are in compliance with OSHA safety regulations.	1	2	3	4	5	6	1	2	3	4	5	6
9.06	Make telephone call to fire department or police in emergency.	1	2	3	4	5	6	1	2	3	4	5	6
9.07	Be able to operate a fire extinguisher properly.	1	2	3	4	5	6	1	2	3	4	5	6
10.	Examining Room												
10.01	Determine if instruments are clean and in operating order.	1	2	3	4	5	6	1	2	3	4	5	6
10.02	Prepare and assemble necessary instruments and supplies for test.	1	2	3	4	5	6	1	2	3	4	5	6
10.03	Change head rest covers and face protectors.	1	2	3	4	5	6	1	2	3	4	5	6
10.04	Light dust and wipe equipment.	1	2	3	4	5	6	1	2	3	4	5	6
10.05	Entertain patient while optometrist is out of examining room.	1	2	3	4	5	6	1	2	3	4	5	6
10.06	Receive and seat patient.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
10.07	Explain nature and after-effects of examination to patients.	1	2	3	4	5	6	1	2	3	4	5	6
10.08	Dismiss patients.	1	2	3	4	5	6	1	2	3	4	5	6
11.	Dispensing												
11.01	Make Interpupillary Distance measurement.	1	2	3	4	5	6	1	2	3	4	5	6
11.02	Assist patient in frame selection.	1	2	3	4	5	6	1	2	3	4	5	6
11.03	Measure patient for frame.	1	2	3	4	5	6	1	2	3	4	5	6
11.04	Verify frame measurements.	1	2	3	4	5	6	1	2	3	4	5	6
11.05	Write frame prescription for optometrist's approval.	1	2	3	4	5	6	1	2	3	4	5	6
11.06	Make plastic frame adjustments for patient.	1	2	3	4	5	6	1	2	3	4	5	6
11.07	Make wire frame adjustments for patient.	1	2	3	4	5	6	1	2	3	4	5	6
11.08	Write contact lens prescription for optometrist's approval.	1	2	3	4	5	6	1	2	3	4	5	6
11.09	Maintain soft and hard contact lens office equipment.	1	2	3	4	5	6	1	2	3	4	5	6
11.10	Assist patient in color selection of contact lens.	1	2	3	4	5	6	1	2	3	4	5	6
11.11	Measure patient for bifocal (trifocal) seg. height.	1	2	3	4	5	6	1	2	3	4	5	6
11.12	Dispense contact lenses to patient.	1	2	3	4	5	6	1	2	3	4	5	6
11.13	Dispense contact lens solutions to patient.	1	2	3	4	5	6	1	2	3	4	5	6
11.14	Write or call patient when prescription is ready for delivery.	1	2	3	4	5	6	1	2	3	4	5	6
11.15	Instruct patient when prescription should be worn.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
11.16	Instruct patients on proper lens care (glass or hard resin).	1	2	3	4	5	6	1	2	3	4	5	6
11.17	Instruct patient on contact lens care and hygiene.	1	2	3	4	5	6	1	2	3	4	5	6
11.18	Instruct patient on contact lens insertion and removal.	1	2	3	4	5	6	1	2	3	4	5	6
12.	Laboratory Procedures												
12.01	Verify prescription of regular lenses.	1	2	3	4	5	6	1	2	3	4	5	6
12.02	Neutralize lenses and determine new patient's prescription.	1	2	3	4	5	6	1	2	3	4	5	6
12.03	Inspect lens for flaws.	1	2	3	4	5	6	1	2	3	4	5	6
12.04	Insert and/or assemble lenses in plastic frames.	1	2	3	4	5	6	1	2	3	4	5	6
12.05	Insert and/or assemble lenses in wire frames.	1	2	3	4	5	6	1	2	3	4	5	6
12.06	Verify prescription of contact lenses.	1	2	3	4	5	6	1	2	3	4	5	6
12.07	Make minor repairs on plastic frames.	1	2	3	4	5	6	1	2	3	4	5	6
12.08	Make minor repairs on wire frames.	1	2	3	4	5	6	1	2	3	4	5	6
12.09	Insert or attach wearing comfort devices (large nose pads, etc.) on frames.	1	2	3	4	5	6	1	2	3	4	5	6
12.10	Temper a lens.	1	2	3	4	5	6	1	2	3	4	5	6
12.11	Edge a lens.	1	2	3	4	5	6	1	2	3	4	5	6
12.12	Make alterations on contact lens.	1	2	3	4	5	6	1	2	3	4	5	6
12.13	Clean a contact lens.	1	2	3	4	5	6	1	2	3	4	5	6
12.14	Drop ball test a lens.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
12.15	Engrave names with a temple engraver.	1	2	3	4	5	6	1	2	3	4	5	6
12.16	Use current prescription control procedure.	1	2	3	4	5	6	1	2	3	4	5	6
13.	Patient Education												
13.01	Orient patient to the optometric procedures.	1	2	3	4	5	6	1	2	3	4	5	6
13.02	Instruct patient on visual training procedure indicated by optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
13.03	Instruct patient on reason prescription should be worn.	1	2	3	4	5	6	1	2	3	4	5	6
13.04	Instruct patient on use of bifocal (trifocal) lenses.	1	2	3	4	5	6	1	2	3	4	5	6
13.05	Instruct patient on eye exercise procedure indicated by optometrist.	1	2	3	4	5	6	1	2	3	4	5	6
13.06	Provide in-office visual training.	1	2	3	4	5	6	1	2	3	4	5	6
13.07	Keep patient visual training progress chart current.	1	2	3	4	5	6	1	2	3	4	5	6
13.08	Inform patient of government regulations regarding lens material.	1	2	3	4	5	6	1	2	3	4	5	6
13.09	Instruct patient on importance of proper lighting.	1	2	3	4	5	6	1	2	3	4	5	6
13.10	Differentiate eye care performed by each of the following: optometrist, ophthamologist, oculist, and optician.	1	2	3	4	5	6	1	2	3	4	5	6
13.11	Explain types of refractive error to patient.	1	2	3	4	5	6	1	2	3	4	5	6
13.12	Maintain audio-visual materials in usable condition.	1	2	3	4	5	6	1	2	3	4	5	6
13.13	Maintain pamphlet rack for patient education.	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
14.	Role of Assistant in Examinations												
14.01	1st, 2nd, and 3rd Degree Fusion Tests	1	2	3	4	5	6	1	2	3	4	5	6
14.02	Far and Near Discrimination Tests	1	2	3	4	5	6	1	2	3	4	5	6
14.03	Hand and Eye Coordination Tests	1	2	3	4	5	6	1	2	3	4	5	6
14.04	Accommodative Rock Test	1	2	3	4	5	6	1	2	3	4	5	6
14.05	Macular and Peri-macular Suppression Test	1	2	3	4	5	6	1	2	3	4	5	6
14.06	Horizontal and Vertical Phorias and Tropia Tests	1	2	3	4	5	6	1	2	3	4	5	6
14.07	Retinal Rivalry Test	1	2	3	4	5	6	1	2	3	4	5	6
14.08	Stereopsis Test	1	2	3	4	5	6	1	2	3	4	5	6
14.09	Cheiroscopic Drawing Test	1	2	3	4	5	6	1	2	3	4	5	6
14.10	Van Orden Star Test	1	2	3	4	5	6	1	2	3	4	5	6
14.11	Perimeter Visual Field Test	1	2	3	4	5	6	1	2	3	4	5	6
14.12	Tangent Screen Visual Field Test	1	2	3	4	5	6	1	2	3	4	5	6
14.13	Auto Plot Visual Field Test	1	2	3	4	5	6	1	2	3	4	5	6
14.14	Multiple Screener Visual Field Test	1	2	3	4	5	6	1	2	3	4	5	6
14.15	Amslor Grid Test	1	2	3	4	5	6	1	2	3	4	5	6
14.16	Near Point of Convergence Test	1	2	3	4	5	6	1	2	3	4	5	6
14.17	Rotations Test	1	2	3	4	5	6	1	2	3	4	5	6
14.18	Pursuit Fixations Test	1	2	3	4	5	6	1	2	3	4	5	6
14.19	Saccadic Fixations Test	1	2	3	4	5	6	1	2	3	4	5	6
14.20	Hand and Eye Orientation Test	1	2	3	4	5	6	1	2	3	4	5	6

Number	Task Performed by Assistant	Task Frequency						Task Proficiency					
		Never	Seldom	Sometimes	Monthly	Weekly	Daily	None	Some	Limited	Moderate	Proficient	V. Proficient
14.21	Near to Far Fixations Test	1	2	3	4	5	6	1	2	3	4	5	6
14.22	Pupillary Reflexes Test	1	2	3	4	5	6	1	2	3	4	5	6
14.23	Donders Amplitude Test	1	2	3	4	5	6	1	2	3	4	5	6
14.24	Brock String Test	1	2	3	4	5	6	1	2	3	4	5	6
14.25	Cover Test	1	2	3	4	5	6	1	2	3	4	5	6
14.26	Color Perception Test	1	2	3	4	5	6	1	2	3	4	5	6
14.27	Stereo Fly Test	1	2	3	4	5	6	1	2	3	4	5	6
14.28	Telebinocular Test	1	2	3	4	5	6	1	2	3	4	5	6
14.29	Keratometry Test	1	2	3	4	5	6	1	2	3	4	5	6
14.30	McKay Marg Tonometry Test	1	2	3	4	5	6	1	2	3	4	5	6
14.31	No Contact A.O. Tonometry Test	1	2	3	4	5	6	1	2	3	4	5	6
14.32	Visual Acuities Test (far and near)	1	2	3	4	5	6	1	2	3	4	5	6
14.33	Sphygmomonetry Test	1	2	3	4	5	6	1	2	3	4	5	6
14.34	Retinoscopy Test	1	2	3	4	5	6	1	2	3	4	5	6
14.35	Glucose Tear Test	1	2	3	4	5	6	1	2	3	4	5	6
14.36	Shirmer Tear Test	1	2	3	4	5	6	1	2	3	4	5	6
14.37	Fluorescein Installation	1	2	3	4	5	6	1	2	3	4	5	6

Summary of Number of Responses

1. Entire Task Analysis Survey Form

	Optometrists	Optometric Assistant	Total
Number sent form	347	65	412
Number returning form	175 - 50.4%	43 - 66.2%	218 - 52.9%
Number indicating retirement or non-employed	3 - 0.9%	2 - 3.1%	

2. General Information Portion of Task Analysis Survey Form

Number sent	100
Number returning form	47 - 47%
Number indicating retirement	3 - 3%
Number indicating completion of entire form also	3 - 3%
Number returning form after key punching date	2 - 2%

3. Telephone Sample

Number called	20
Number indicating not having received entire form	2 - 10%
Number indicating retired status	1 - 5%

Summary of General Information Responses

Item no.	Opto.	Opto. Ass't	Non Resp.
1.1	118-67%	26-60%	28-65%
1.2	43-24%	12-28%	13-30%
1.3	13- 7%	4- 9%	2- 5%
1.4	2- 1%	1- 2%	0- 0%
2			
2.1	16- 9%	5-12%	5-11%
2.2	146-82%	35-84%	35-81%
2.3	3- 2%	2- 5%	2- 5%
2.4	8- 4%	0- 0%	1- 2%
2.5	5- 3%	0- 0%	0- 0%
3			
3.1	14- 8%	2- 5%	2- 5%
3.2	6- 3%	3- 7%	2- 5%
3.3	15- 9%	6-15%	1- 2%
3.4	16- 9%	10-24%	6-14%
3.5	122-70%	20-49%	32-74%
4			
4.1	18-10%	19-44%	1- 2%
4.2	12- 7%	9-21%	3- 7%
4.3	20-12%	11-26%	4- 9%
4.4	13- 8%	4- 9%	6-14%
4.5	110-64%	0- 0%	29-67%

Item no.	Opto.	Opto. Ass't	Non Resp.
5			
5.1	10- 6%	1- 2%	4- 9%
5.2	61-36%	12-28%	20-47%
5.3	53-31%	20-47%	9-21%
5.4	27-16%	8-19%	7-16%
5.5	20-12%	2- 5%	3- 7%
6			
6.1	129-76%	7-17%	33-79%
6.2	28-16%	34-83%	9-21%
6.3	11- 6%	0- 0%	0- 0%
6.4	2- 1%	0- 0%	0- 0%
7			
7.1	19-11%	0- 0%	6-15%
7.2	70-42%	0- 0%	19-46%
7.3	57-34%	0- 0%	8- 2%
7.4	24-14%	0- 0%	8-20%
8			
8.1	115-70%		28-70%
8.2	48-29%		11-28%
8.3	2- 1%		1- 3%
8.4	0- 0%		0- 0%
9.			
9.1	104-69%		24-63%
9.2	45-30%		12-32%
9.3	2- 1%		2- 5%
9.4	0- 0%		0- 0%

Item no.	Opto.	Opto. Ass't	Non Resp.
10.			
10.1	99-70%		16-47%
10.2	39-28%		16-47%
10.3	2- 1%		2- 6%
10.4	1- 1%		0- 0%
11.			
11.1	99-72%		16-48%
11.2	35-25%		16-48%
11.3	3- 2%		1- 3%
11.4	1- 1%		0- 0%
12.			
12.1	1- 1%		0- 0%
12.2	24-15%		4-10%
12.3	32-20%		7-17%
12.4	32-20%		10-24%
12.5	72-45%		21-50%

PARAOPTOMETRIC (OPTOMETRIC ASSISTANT) TASK ANALYSIS SURVEY
1973-74

DIRECTIONS:

Please circle the number after the statement of the task that most nearly agrees with your assessment of the performance done by the assistant in your practice or, if you have no assistant, tasks that could be performed by a trained assistant. Both "proficiency" and "frequency" of the task are to be indicated. If you have a question or comment, please indicate it between items or on an attached sheet.

The following indicates the definitions of the assessments to be used:

Frequency of Performance:

1 - Never
2 - Seldom - several times per year
3 - Sometimes - 5 to 10 times per year
4 - Monthly - averages at least 1 per month
5 - Weekly - averages at least 1 per week
6 - Daily - averages at least 1 per day

Proficiency Needed by Assistant:

1 - None - no knowledge of task
2 - Some - only recognition and acquaintances with terminology
3 - Limited - can assist and/or perform simple parts of task as directed by the optometrist
4 - Moderate - can perform task with constant guidance
5 - Proficient - can perform entire task with very little guidance
6 - Very Proficient - can initiate and perform entire task without guidance

Number	Task Performed by Assistant	Task Frequency	Task Proficiency
SAMPLE	Types recall letters for patients	1 2 3 4 5 6	1 2 3 4 5 6

Number	Task Performed by Assistant	Task Frequency (Never 1, Seldom 2, Sometimes 3, Monthly 4, Weekly 5, Daily 6)		Task Proficiency (None 1, Some 2, Limited 3, Moderate 4, Proficient 5, V. Proficient 6)	
1.	Reception of Patients and Visitors	(Mean)	(Std Dev)	(Mean)	(Std Dev)
1.01	Greet patient and confirm appointment date and time.	4.885	1.975	4.840	1.846
1.02	Interview new patient to complete a registration form.	4.423	2.216	4.400	2.084
1.03	Interview patient for insurance or other third party sponsorship information.	4.115	2.088	4.298	2.013
1.04	Complete patient screening.	3.524	2.295	3.736	2.175
1.05	Obtain signature for assignment of insurance payment to optometrist and signature authorization for release of information.	3.674	2.077	4.112	2.062
1.06	Escort patient to examination or frame fitting room.	4.454	2.226	4.417	2.133
1.07	Maintain clean and orderly office. (Empty ashtrays, reorganize magazines, etc.)	4.427	2.206	4.218	2.107
1.08	Receive non-patients.	4.405	2.175	4.380	2.072
1.09	Entertain children waiting for patients.	3.577	1.993	4.048	2.021
2.	Public Relations	(Mean)	(Std Dev)	(Mean)	(Std Dev)
2.01	Receive calls and answer questions from patients or potential patients.	4.524	2.190	4.334	2.033
2.02	Answer general questions from patient and potential patients that relate to the practice.	4.319	2.170	4.199	2.003
2.03	Explain fees to patients.	4.038	2.197	4.151	2.055
2.04	Answer letters from patients, upon approval of content by optometrist.	3.468	2.023	3.927	2.014

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1, Seldom 2, Sometimes 3, Monthly 4, Weekly 5, Daily 6		None 1, Some 2, Limited 3, Moderate 4, Proficient 5, V. Proficient 6	
2.05	Attend meetings and participate in community activities related to optometric practice.	2.177	1.120	3.186	1.946
2.06	Maintain personal information card index on each patient.	3.429	2.335	3.522	2.245
2.07	Explain to waiting patients what delay to expect when running behind schedule.	4.407	1.833	4.788	1.713
2.08	Send thank you letters to referral sources.	2.800	1.980	3.394	2.184
2.09	Assist patients in obtaining taxi service, etc.	3.091	1.824	3.970	2.150
3.	Secretarial	(Mean)	(Std Dev)	(Mean)	(Std Dev)
3.01	Record vision examination information.	2.550	2.063	2.970	2.169
3.02	Take dictation in shorthand and transcribe.	1.716	1.451	2.194	1.872
3.03	Arrange travel accommodations for optometrist.	1.776	1.218	2.576	1.979
3.04	Open and sort mail.	4.404	2.171	4.430	2.019
3.05	Answer optometrist's routine mail after screening by optometrist.	3.145	2.108	3.576	2.123
3.06	Place and answer telephone calls for optometrist.	4.128	2.199	4.214	2.132
3.07	Record telephone messages with time and date.	3.966	2.215	4.093	2.172
3.08	Gather data to complete statutory reports for government agencies.	2.637	1.913	3.137	2.122
3.09	Operate typical office business machines (e.g., copy machine).	3.856	2.187	4.089	2.106
4.	Scheduling Patients	(Mean)	(Std Dev)	(Mean)	(Std Dev)
4.01	Make appointments for new patients.	5.766	0.952	5.589	1.050

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3 Monthly 4 Weekly 5 Daily 6		None 1 Some 2 Limited 3 Moderate 4 Proficient 5 V. Proficient 6	
4.02	Make telephone calls to confirm patient's appointment date and time.	4.387	1.832	5.046	1.561
4.03	Arrange for next appointment before patient leaves the office.	4.636	1.659	5.032	1.505
4.04	Reschedule appointment for patient who cancels one.	4.840	1.337	5.333	1.171
4.05	Contact patients with future appointments to fill in for cancellations.	3.955	1.759	4.953	1.619
4.06	Cancel appointments for the optometrist when necessary and reschedule patient.	3.767	1.333	5.420	1.034
4.07	Make a daily list of optometrist's scheduled appointments for optometrist.	4.209	2.239	4.503	2.016
4.08	Make a daily list of schedule appointments with other staff (visual training, etc.) for optometrist.	2.738	2.168	3.244	2.211
4.09	Note in an appointment book scheduled times that optometrist will be away from office.	4.458	1.410	5.186	1.333
4.10	Send recall letters to patient.	4.406	1.492	5.165	1.480
4.11	Contact patient to remind patient of recall date.	3.309	1.933	4.230	2.027
4.12	Schedule people other than patients.	3.953	1.488	4.885	1.358
4.13	Schedule progress reports on patients.	4.152	1.823	4.662	1.751
5.	Patient Records	(Mean)	(Std Dev)	(Mean)	(Std Dev)
5.01	Initiate a record file for a new patient.	5.528	1.269	5.483	1.183
5.02	Enter anecdotal notes on patient's record.	3.733	1.903	4.448	1.870
5.03	File reports and correspondence in patient's record folder.	5.096	1.390	5.241	1.278

umber	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3 Monthly 4 Weekly 5 Daily 6		None 1 Some 2 Limited 3 Moderate 4 Proficient 5 V. Proficient 6	
5.04	Pull patient's record folder for scheduled appointments.	5.707	1.056	5.440	1.202
5.05	Review patient record files for completeness and accuracy of examination results.	3.953	2.168	4.135	2.029
5.06	Update patient's address, phone number and other personal information on information form.	5.366	1.307	5.275	1.214
5.07	Provide confidential security for patient files.	5.302	1.441	5.220	1.381
5.	Office Management	(Mean)	(Std Dev)	(Mean)	(Std Dev)
5.01	Inspect all areas and rooms for proper housekeeping, temperature, and adequate supplies.	5.197	1.362	5.060	1.311
5.02	Perform light dusting and wiping of equipment.	4.953	1.531	4.877	1.560
5.03	Arrange for maintenance and repair of equipment.	2.690	1.713	3.418	1.976
5.04	Keep an office procedure manual current.	2.834	1.761	3.589	2.066
5.05	Assist in training a new assistant.	2.544	1.574	3.845	1.976
5.06	Arrange meetings with optometrist to resolve problems.	2.973	1.647	3.827	1.994
5.07	Schedule vacations and arrange for coverage.	2.549	1.295	3.734	1.903
5.08	Participate in externship programs for Optometric Assistant training programs.	2.263	1.232	3.425	2.077
5.09	Set up inventory control and reorder levels for optometric supplies.	3.519	1.585	4.184	1.801
5.10	Order optometric and office supplies.	4.052	1.286	4.842	1.358

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1, Seldom 2, Sometimes 3, Monthly 4, Weekly 5, Daily 6		None 1, Some 2, Limited 3, Moderate 4, Proficient 5, V. Proficient 6	
6.11	Keep catalogs of supplies and equipment pertinent to optometric practice.	3.718	1.685	4.100	1.759
6.12	Prepare statistical reports in regard to patient visits and procedures.	2.786	1.798	3.442	2.096
6.13	Prepare a budget for income and expenses.	1.473	1.025	2.027	1.753
6.14	Prepare a financial report of income and expenses.	1.985	1.508	2.712	2.097
6.15	Maintain a fee schedule for services.	2.960	2.024	4.080	1.940
6.16	Develop accounting and statistical reports related to a partnership practice.	1.372	1.101	1.751	1.659
6.17	Develop accounting and statistical reports related to a group practice.	2.129	1.703	2.269	1.798
6.18	Provide additional copies of business forms or correspondence.	3.238	1.729	3.192	2.123
6.19	Attend regular staff meetings.	2.778	1.439	3.000	2.072
7.	Bookkeeping and Billing	(Mean)	(Std Dev)	(Mean)	(Std Dev)
7.01	Complete a patient ledger card for new patients.	4.362	2.177	4.313	2.114
7.02	Receive and review copy of services after optometrist sees patient.	4.322	2.152	5.147	1.462
7.03	Prepare charge slips for services to patient.	4.961	1.840	4.820	1.830
7.04	Extract billing information from optometrist's notes.	4.877	1.839	4.466	2.025
7.05	Post entries from original entry record to patient's ledger card.	5.520	1.330	5.336	1.312
7.06	Type an itemized or coded bill and mail to patient.	4.598	1.525	5.212	1.327

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3 Monthly 4 Weekly 5 Daily 6		None 1 Some 2 Limited 3 Moderate 4 Proficient 5 V. Proficient 6	
7.07	Post an adjusting entry for difference between payment accepted and the optometrist's usual fee.	4.318	1.873	4.729	1.735
7.08	Complete indemnity insurance forms for patient to submit his claim.	4.000	1.788	4.564	1.656
7.09	Complete insurance forms for filing assigned insurance claims.	4.213	1.693	4.654	1.582
7.10	Complete Medicare payment request Form SSA-1490.	4.269	1.877	4.565	1.725
7.11	Complete Workmens Compensation Forms.	3/535	2.068	3.963	2.026
8.	Handling Finances	(Mean)	(Std Dev)	(Mean)	(Std Dev)
8.01	Present fee at end of patient visit.	5.236	1.523	5.283	1.212
8.02	Collect payments at time of visit and make entry to an original record (cash, checks, credic card).	5.454	1.187	5.329	1.093
8.03	Establish and control petty cash fund.	5.130	1.573	5.097	1.416
8.04	Accept and post payments received to patient ledger card for payments on account (cash, check, credit card).	5.703	0.949	5.507	0.944
8.05	Make financial arrangements with patient, following standard operating procedures for the practice.	5.122	1.520	5.072	1.333
8.06	Reconcile cash count and receipts.	5.081	1.529	5.124	1.386
8.07	Prepare a bank deposit ticket.	4.217	1.858	4.791	1.670
8.08	Make bank deposits.	4.237	1.982	4.703	1.791
8.09	Reconcile bank accounts.	3.675	1.944	4.226	2.030
8.10	Process unredeemed checks returned by bank.	3.246	1.733	4.230	1.897

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3	Monthly 4 Weekly 5 Daily 6	None 1 Some 2 Limited 3	Moderate 4 Proficient 5 V. Proficient 6
8.11	Execute a promissory note for payment.	2.418	1.662	3.186	2.095
8.12	Investigate mail returned because of incorrect addresses.	3.527	1.679	4.410	1.701
8.13	Communicate with insurance companies in regard to patient claims.	2.797	1.611	3.748	2.012
8.14	Age and analyze accounts for unusual problems and abnormal trends.	2.616	1.397	3.729	2.005
8.15	Call patient or guarantor in regard to payment of bills.	3.773	1.725	4.510	1.666
8.16	Make recommendations on offers to compromise settlement of account.	2.818	1.707	3.671	2.014
8.17	Complete a creditors' claim form for deceased patients.	2.792	1.967	3.584	2.113
8.18	Complete forms to assign accounts to an outside collection agency.	3.580	1.636	4.512	1.689
8.19	Review and evaluate status reports of accounts with a collection agency.	3.009	1.524	4.078	1.834
8.20	Maintain a disbursement record to fit optometrist's practice.	3.101	2.077	3.569	2.123
8.21	Review invoices for accuracy.	4.813	1.527	5.221	1.318
8.22	Prepare checks for optometrist's signature for payments of invoices, salaries, etc.	3.928	1.951	4.556	1.931
8.23	Maintain a file of paid and unpaid invoices.	4.323	1.828	4.635	1.773
8.24	Approve invoices for payment.	3.947	1.859	4.536	1.928
8.25	Enter in a check register payments made to vendors.	3.497	1.990	4.073	2.088
8.26	Make out and sign checks, up to specified amount, for the optometrist.	2.550	1.848	3.484	2.269

Number	Task Performed by Assistant	Task Frequency (Never 1, Seldom 2, Sometimes 3, Monthly 4, Weekly 5, Daily 6)		Task Proficiency (None 1, Some 2, Limited 3, Moderate 4, Proficient 5, V. Proficient 6)	
9.	Emergency and Safety	(Mean)	(Std Dev)	(Mean)	(Std Dev)
9.01	Identify symptoms and apply first aid for shock, fainting, asphyxia, respiratory or cardiac failure, bleeding.	2.428	2.002	3.148	2.100
9.02	Handle telephone calls regarding emergencies from patient.	3.520	1.673	4.500	1.656
9.03	Seek help from qualified nurse or physician for emergencies.	2.995	1.773	4.134	1.889
9.04	Provide procedures for evacuation of patients in case of fire or other emergency.	2.371	1.710	3.446	2.080
9.05	Inspect practice so that office and laboratory are in compliance with OSHA safety regulations.	2.492	1.812	3.127	2.087
9.06	Make telephone call to fire department or police in emergency.	2.346	1.630	3.836	2.048
9.07	Be able to operate a fire extinguisher properly.	2.682	1.878	3.852	1.936
10.	Examining Room	(Mean)	(Std Dev)	(Mean)	(Std Dev)
10.01	Determine if instruments are clean and in operating order.	4.855	1.702	4.945	1.513
10.02	Prepare and assemble necessary instruments and supplies for test.	4.131	1.974	4.385	1.790
10.03	Change head rest covers and face protectors.	4.555	1.907	4.673	1.750
10.04	Light dust and wipe equipment.	5.235	1.310	5.256	1.235
10.05	Entertain patient while optometrist is out of examining room.	3.613	1.986	4.227	1.886
10.06	Receive and seat patient.	5.639	0.995	5.442	0.971

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1, Seldom 2, Sometimes 3, Monthly 4, Weekly 5, Daily 6		None 1, Some 2, Limited 3, Moderate 4, Proficient 5, V. Proficient 6	
10.07	Explain nature and after-effects of examination to patients.	3.790	1.948	4.455	1.748
10.08	Dismiss patients.	5.209	1.407	5.190	1.233
11.	Dispensing	(Mean)	(Std Dev)	(Mean)	(Std Dev)
11.01	Make Interpupillary Distance measurement.	3.281	2.128	3.728	2.085
11.02	Assist patient in frame selection.	4.600	1.903	4.752	1.609
11.03	Measure patient for frame.	3.612	2.096	4.005	1.975
11.04	Verify frame measurements.	3.995	2.006	4.525	1.830
11.05	Write frame prescription for optometrist's approval.	4.083	2.004	4.410	1.909
11.06	Make plastic frame adjustments for patient.	4.380	1.895	4.636	1.607
11.07	Make wire frame adjustments for patient.	4.107	2.031	4.328	1.839
11.08	Write contact lens prescription for optometrist's approval.	2.965	2.061	3.439	2.182
11.09	Maintain soft and hard contact lens office equipment.	4.024	1.911	4.419	1.850
11.10	Assist patient in color selection of contact lens.	2.583	1.843	3.221	2.110
11.11	Measure patient fo bifocal (trifocal) scg. height.	2.454	1.982	2.895	2.072
11.12	Dispense contact lenses to patient.	2.882	1.996	3.462	2.184
11.13	Dispense contact lens solutions to patient.	3.713	1.882	4.338	1.951
11.14	Write or call patient when prescription is ready for delivery.	5.058	1.665	5.155	1.480
11.15	Instruct patient when prescription should be worn.	3.326	2.109	3.819	2.094

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3 Monthly 4 Weekly 5 Daily 6		None 1 Some 2 Limited 3 Moderate 4 Proficient 5 V. Proficient 6	
11.16	Instruct patients on proper lens care (glass or hard resin).	3.945	2.124	4.240	2.012
11.17	Instruct patient on contact lens care and hygiene.	3.755	1.950	4.314	1.926
11.18	Instruct patient on contact lens insertion and removal.	3.457	1.989	3.953	2.116
12.	Laboratory Procedures	(Mean)	(Std Dev)	(Mean)	(Std Dev)
12.01	Verify prescription of regular lenses.	4.960	1.829	4.896	1.720
12.02	Neutralize lenses and determine new patient's prescription.	4.747	1.935	4.764	1.775
12.03	Inspect lens for flaws.	4.925	1.811	4.855	1.659
12.04	Insert and/or assemble lenses in plastic frames.	4.524	1.956	4.651	1.750
12.05	Insert and/or assemble lenses in wire frames.	4.824	1.713	4.979	1.483
12.06	Verify prescription of contact lenses.	3.435	2.028	3.969	2.140
12.07	Make minor repairs on plastic frames.	4.729	1.655	4.984	1.401
12.08	Make minor repairs on wire frames.	4.776	1.588	4.938	1.327
12.09	Insert or attach wearing comfort devices (large nose pads, etc.) on frames.	4.301	1.749	4.680	1.584
12.10	Temper a lens.	2.575	2.086	2.908	21.85
12.11	Edge a lens.	1.820	1.576	2.263	1.901
12.12	Make alterations on contact lens.	2.698	2.221	2.914	2.162
12.13	Clean a contact lens.	4.152	2.039	4.469	1.919
12.14	Drop ball test a lens.	2.680	2.244	2.791	2.140

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3 Monthly 4 Weekly 5 Daily 6		None 1 Some 2 Limited 3 Moderate 4 Proficient 5 V. Proficient 6	
12.15	Engrave names with a temple engraver.	3.235	2.331	3.500	2.226
12.16	Use current prescription control procedure.	3.955	2.296	4.080	2.108
13.	Patient Education	(Mean)	(Std Dev)	(Mean)	Std Dev)
13.01	Orient patient to the optometric procedures.	4.436	1.839	4.632	1.564
13.02	Instruct patient on visual training procedure indicated by optometrist.	3.264	2.083	3.671	2.034
13.03	Instruct patient on reason prescription should be worn.	3.813	1.926	4.230	1.798
13.04	Instruct patient on use of bifocal (trifocal) lenses.	3.844	1.947	4.366	1.785
13.05	Instruct patient on eye exercise procedure indicated by optometrist.	2.759	1.816	3.540	2.043
13.06	Provide in-office visual training.	2.080	1.629	2.663	1.961
13.07	Keep patient visual training progress chart current.	2.771	1.918	3.279	2.071
13.08	Inform patient of government regulations regarding lens material.	3.906	1.793	4.407	1.718
13.09	Instruct patient on importance of proper lighting.	3.015	1.579	3.900	1.776
13.10	Differentiate eye care performed by each of the following: optometrist, ophthamologist, oculist, and optician.	3.448	1.534	4.500	1.611
13.11	Explain types of refractive error to patient.	2.741	1.597	3.561	1.916
13.12	Maintain audio-visual materials in usable condition.	2.720	1.808	3.319	2.011
13.13	Maintain pamphlet rack for patient education.	3.660	1.758	4.143	1.861

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1, Seldom 2, Sometimes 3, Monthly 4, Weekly 5, Daily 6		None 1, Some 2, Limited 3, Moderate 4, Proficient 5, V. Proficient 6	
14.	Role of Assistant in Examinations	(Mean)	(Std Dev)	(Mean)	(Std Dev)
14.01	1st, 2nd, and 3rd Degree Fusion Tests	2.915	2.029	3.312	2.082
14.02	Far and Near Discrimination Tests	2.938	2.122	3.382	2.147
14.03	Hand and Eye Coordination Tests	2.811	2.032	3.184	2.130
14.04	Accommodative Rock Test	2.263	1.854	2.771	2.087
14.05	Macular and Peri-macular Suppression Test	2.557	2.036	2.959	2.148
14.06	Horizontal and Vertical Phorias and Tropia Tests	2.584	2.078	2.923	2.175
14.07	Retinal Rivalry Test	2.119	1.835	2.587	2.067
14.08	Stereopsis Test	3.242	2.298	3.530	2.268
14.09	Cheiroscopic Drawing Test	2.019	1.659	2.656	2.035
14.10	Van Orden Star Test	2.714	2.033	3.239	2.168
14.11	Perimeter Visual Field Test	2.480	1.924	3.149	2.125
14.12	Tangent Screen Visual Field Test	2.074	1.761	2.661	2.045
14.13	Auto Plot Visual Field Test	2.035	1.777	2.450	1.971
14.14	Multiple Screener Visual Field Test	1.912	1.698	2.539	2.014
14.15	Amslor Grid Test	1.647	1.435	2.185	1.823
14.16	Near Point of Convergence Test	2.510	2.107	2.767	2.044
14.17	Rotations Test	2.336	2.005	2.704	2.068
14.18	Pursuit Fixations Test	2.432	2.067	2.741	2.089
14.19	Saccadic Fixations Test	2.597	2.132	2.893	2.145
14.20	Hand and Eye Orientation Test	2.510	1.989	3.015	2.116

Number	Task Performed by Assistant	Task Frequency		Task Proficiency	
		Never 1 Seldom 2 Sometimes 3 Monthly 4 Weekly 5 Daily 6		None 1 Some 2 Limited 3 Moderate 4 Proficient 5 V. Proficient 6	
14.21	Near to Far Fixations Test	2.984	2.298	3.212	2.225
14.22	Pupillary Reflexes Test	2.075	1.789	2.507	1.939
14.23	Donders Amplitude Test	2.446	2.090	2.812	2.122
14.24	Brock String Test	1.984	1.718	2.463	1.974
14.25	Cover Test	2.765	2.220	3.030	2.165
14.26	Color Perception Test	3.871	2.233	4.198	2.036
14.27	Stereo Fly Test	3.371	2.324	3.680	2.217
14.28	Telebinocular Test	2.979	2.246	3.296	2.205
14.29	Keratometry Test	2.515	2.144	2.757	2.122
14.30	McKay Marg Tonometry Test	2.281	2.015	2.543	2.068
14.31	No Contact A.O. Tonometry Test	2.000	1.814	2.415	2.032
14.32	Visual Acuities Test (far and near)	3.257	2.241	3.567	2.209
14.33	Sphygmomonetry Test	1.693	1.480	2.121	1.853
14.34	Retinoscopy Test	1.462	1.313	1.847	1.623
14.35	Glucose Tear Test	1.914	1.724	2.329	2.022
14.36	Shirmer Tear Test	2.241	1.910	2.538	2.098
14.37	Fluorescein Installation	2.829	2.273	3.176	2.271

Optometrists

and

Optometric Assistants

Analysis of Frequency

Items 1.01 to 14.37

Respondents = 218

4 of 2

ITEM	OMIT	1	2	3	4	5	6	[illegible]	STD. DEV	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1.01	1 NUMBER 9	0.041 37	0.189 4	0.018 4	0.041 9	0.000 0	0.022 5	0.726 154	4.835 TOTAL RESPONDENTS FOR ITEM	1.975	0.213	4.950	5.661 1= 207	6.186	4.210
1.02	2 NUMBER 8	0.036 56	0.255 4	0.018 9	0.041 9	0.000 0	0.035 8	0.610 133	4.423 TOTAL RESPONDENTS FOR ITEM	2.216	0.189	1.437	5.742 2= 217	6.169	4.667
1.03	3 [illegible] 12	0.046 54	0.238 2	0.014 3	0.037 8	0.018 4	0.151 33	0.412 90	4.115 TOTAL RESPONDENTS FOR ITEM	2.038	0.204	[illegible]	[illegible] 3= [illegible]	5.926	4.422
1.04	4 NUMBER 14	0.064 76	0.149 18	0.064 20	0.091 20	0.000 0	0.022 5	0.403 88	3.524 TOTAL RESPONDENTS FOR ITEM	2.295	0.155	1.171	5.050 4= 217	5.920	4.749
1.05	5 [illegible] 4	[illegible] 11	0.055 11	0.128 24	0.069 14	0.123 27	0.316 69	3.674 TOTAL RESPONDENTS FOR ITEM	2.077	0.143	1.355	5.540 5= 217	5.742	4.560
1.06	6 [illegible] 9	[illegible] 12	0.027 6	0.027 6	0.009 2	0.009 2	0.633 138	4.454 TOTAL RESPONDENTS FOR ITEM	2.226	0.151	1.450	5.742 6= 217	6.121	4.671
1.07	7 [illegible] 11	[illegible] [illegible]	0.023 5	0.027 6	0.009 2	0.045 10	0.596 130	4.427 TOTAL RESPONDENTS FOR ITEM	2.206	0.177	1.449	5.700 7= 218	6.100	4.654
1.08	8 [illegible] 11	[illegible] 27	0.018 4	0.032 7	0.013 3	0.077 17	0.559 122	4.405 TOTAL RESPONDENTS FOR ITEM	2.175	0.256	1.456	5.691 8= 217	6.075	4.617
1.09	9 [illegible] 12	[illegible] 4	0.037 8	0.160 35	0.050 11	0.137 30	0.265 58	3.577 TOTAL RESPONDENTS FOR ITEM	1.993	0.229	1.453	5.365 9= 218	5.612	4.155
2.01	10 [illegible] 10	0.047 24	0.009 2	0.027 6	0.009 2	0.032 7	0.628 137	4.524 TOTAL RESPONDENTS FOR ITEM	2.190	0.290	1.462	5.740 10= 218	6.120	4.697
2.02	11 [illegible] 9	0.036 55	0.022 5	0.045 10	0.022 5	0.082 18	0.536 117	4.319 TOTAL RESPONDENTS FOR ITEM	2.170	0.265	1.454	5.602 11= 218	6.051	4.596
2.03	12 NUMBER 9	0.041 59	0.270 9	0.041 9	0.082 18	0.018 4	0.077 17	0.467 102	4.038 TOTAL RESPONDENTS FOR ITEM	2.197	0.301	1.365	5.352 12= 209	5.987	4.602
2.04	13 NUMBER 9	0.041 63	0.298 16	0.073 31	0.142 14	0.064 29	0.133 56	0.256 56	3.468 TOTAL RESPONDENTS FOR ITEM	2.023	0.188	1.329	5.322 13= 209	5.566	4.237
2.05	14 NUMBER 9	0.041 81	0.371 35	0.160 75	0.344 14	0.064 1	0.004 3	0.013 3	2.177 TOTAL RESPONDENTS FOR ITEM	1.120	0.178	1.145	2.171 14= 209	3.043	1.898
2.06	15 NUMBER 11	0.050 85	0.394 15	0.068 10	0.045 2	0.009 8	0.036 86	0.394 3.429 TOTAL RESPONDENTS FOR ITEM	2.335	0.189	1.101	2.750 15= 207	5.898	4.796
2.07	16 NUMBER 7	0.032 30	0.137 8	0.036 32	0.146 10	0.045 38	0.174 93	0.426 4.407 TOTAL RESPONDENTS FOR ITEM	1.833	0.067	2.960	5.171 16= 21	5.932	2.971
2.08	17 NUMBER 8	0.036 94	0.431 21	0.096 25	0.114 10	0.045 23	0.105 37	0.169 2.800 TOTAL RESPONDENTS FOR ITEM	1.980	0.010	1.058	2.023 17= 21	4.826	3.767
2.09	18 NUMBER 11	0.050 64	0.293 23	0.105 39	0.178 24	0.110 25	0.114 32	0.146 3.091 TOTAL RESPONDENTS FOR ITEM	1.824	0.196	1.308	2.923 18= 207	4.710	3.401
3.01	19 NUMBER 9	0.041 116	0.532 19	0.087 17	0.077 3	0.013 8	0.036 46	0.211 2.550 TOTAL RESPONDENTS FOR ITEM	2.063	0.254	0.950	1.400 19= 209	4.718	3.768

ADF-3

	ITEM	DVI	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
3.02	20	0.048	0.720	0.045	0.075	0.018	0.045	0.050	1.716	1.451	-0.032	0.832	1.162	1.493	0.664
	NUMBER	10	157	10	15	4	10	11	TOTAL RESPONDENTS FOR ITEM 20= 208						
3.03	21	0.053	0.591	0.114	0.165	0.032	0.013	0.027	1.776	1.218	0.137	0.899	1.295	2.513	1.614
	NUMBER	11	129	25	36	7	3	6	TOTAL RESPONDENTS FOR ITEM 21= 206						
3.04	22	0.036	0.235	0.027	0.068	0.018	0.013	0.600	4.404	2.171	0.189	1.749	5.698	6.097	4.349
	NUMBER	8	51	6	15	4	3	131	TOTAL RESPONDENTS FOR ITEM 22= 210						
3.05	23	0.050	0.380	0.064	0.123	0.036	0.091	0.247	3.145	2.108	0.022	1.120	2.742	5.546	4.425
	NUMBER	10	83	14	27	8	20	54	TOTAL RESPONDENTS FOR ITEM 23= 206						
3.06	24	0.[illegible]	0.279	0.013	0.068	0.027	0.087	0.486	4.123	2.199	0.21[illegible]	1.355	5.509	6.054	4.044
	NUMBER	[illegible]	61	3	15	6	19	106	TOTAL RESPONDENTS FOR ITEM 24= 210						
3.07	25	0.04[illegible]	0.288	0.036	0.068	0.027	0.087	0.444	3.966	2.215	0.256	1.325	5.131	5.963	4.038
	NUMBER	10	63	8	15	6	19	97	TOTAL RESPONDENTS FOR ITEM 25= 208						
3.08	26	0.0[illegible]	0.458	0.096	0.087	0.082	0.087	0.137	2.637	1.913	0.001	1.017	1.666	4.347	3.329
	NUMBER	11	100	21	19	18	19	30	TOTAL RESPONDENTS FOR ITEM 26= 207						
3.09	27	0.041	0.293	0.050	0.064	0.036	0.119	0.394	3.856	2.187	0.157	1.316	4.788	5.892	4.576
	NUMBER	9	64	11	14	8	26	86	TOTAL RESPONDENTS FOR ITEM 27= 209						
4.01	28	0.0[illegible]	0.022	0.[illegible]	0.009	0.000	0.022	0.651	5.766	0.952	0.285	5.686	5.957	6.223	0.542
	NUMBER	[illegible]	5	0	2	0	5	142	TOTAL RESPONDENTS FOR ITEM 28= 154						
4.02	29	0.0[illegible]	0.068	0.077	0.123	0.018	0.082	0.339	4.387	1.832	0.250	2.750	5.305	5.976	3.226
	NUMBER	[illegible]	15	17	27	4	18	74	TOTAL RESPONDENTS FOR ITEM 29= 155						
4.03	30	0.279	0.041	0.055	0.128	0.041	0.087	0.366	4.636	1.659	0.269	3.151	5.518	6.039	2.857
	NUMBER	41	9	12	28	9	19	80	TOTAL RESPONDENTS FOR ITEM 30= 157						
4.04	31	0.279	0.022	0.009	0.128	0.041	0.215	0.302	4.840	1.337	0.277	3.972	5.234	5.905	1.933
	NUMBER	61	5	2	28	9	47	66	TOTAL RESPONDENTS FOR ITEM 31= 157						
4.05	32	0.284	0.087	0.068	0.183	0.036	0.128	0.211	3.955	1.759	0.253	2.625	4.000	5.652	3.027
	NUMBER	62	19	15	40	8	28	46	TOTAL RESPONDENTS FOR ITEM 32= 156						
4.06	33	0.283	0.022	0.050	0.316	0.128	0.064	0.128	3.767	1.333	0.213	2.829	3.391	4.732	1.902
	NUMBER	63	5	11	69	28	14	28	TOTAL RESPONDENTS FOR ITEM 33= 155						
4.07	34	0.298	0.188	0.045	0.032	0.004	0.027	0.403	4.209	2.239	0.230	1.432	5.630	6.065	4.632
	NUMBER	65	41	10	7	1	6	88	TOTAL RESPONDENTS FOR ITEM 34= 153						
4.08	35	0.316	0.376	0.032	0.055	0.009	0.036	0.174	2.738	2.168	0.158	0.954	1.408	5.519	4.565
	NUMBER	69	82	7	12	2	8	38	TOTAL RESPONDENTS FOR ITEM 35= 149						
4.09	36	0.283	0.032	0.013	0.160	0.119	0.150	0.224	4.458	1.410	0.244	3.321	4.685	5.709	2.387
	NUMBER	63	7	3	35	26	35	49	TOTAL RESPONDENTS FOR ITEM 36= 155						
4.10	37	0.288	0.064	0.013	0.050	0.252	0.100	0.229	4.406	1.492	0.210	3.695	4.400	5.725	2.029
	NUMBER	63	14	3	11	55	22	50	TOTAL RESPONDENTS FOR ITEM 37= 155						

83

ADD 4

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	S1	S2	S3	IDX
4.11	35 0.312 NUMBER 48	0.206 45	0.069 15	0.110 24	0.082 18	0.073 16	0.155 34	3.309 TOTAL RESPONDENTS FOR ITEM	1.933	0.047 38= 154	1.344	3.165	5.250	3.905
4.12	36 0.307 NUMBER 67	0.045 10	0.045 10	0.233 51	0.073 16	0.155 34	0.137 30	3.953 TOTAL RESPONDENTS FOR ITEM	1.489	0.182 39= 151	2.546	3.781	5.274	2.464
4.13	42 0.279 NUMBER 61	0.114 25	0.032 7	0.123 27	0.050 11	0.155 34	0.245 53	4.152 TOTAL RESPONDENTS FOR ITEM	1.823	0.219 40= 157	2.758	4.750	5.759	2.990
5.01	41 0.279 NUMBER 61	0.036 8	0.004 1	0.032 7	0.000 0	0.041 9	0.605 132	5.828 TOTAL RESPONDENTS FOR ITEM	1.269	0.297 41= 157	5.507	5.903	6.202	0.594
5.02	42 0.289 NUMBER 63	0.119 26	0.096 21	0.160 35	0.041 9	0.055 12	0.233 51	3.793 TOTAL RESPONDENTS FOR ITEM	1.904	0.215 42= 154	2.095	3.357	5.745	3.649
5.03	43 0.288 NUMBER 63	0.036 8	0.013 3	0.055 12	0.041 9	0.155 34	0.408 89	5.096 TOTAL RESPONDENTS FOR ITEM	1.390	0.271 43= 155	4.695	5.629	6.064	1.366
5.04	44 0.293 NUMBER 64	0.027 6	0.004 1	0.004 1	0.004 1	0.027 6	0.637 139	5.707 TOTAL RESPONDENTS FOR ITEM	1.056	0.251 44= 154	5.069	5.946	6.223	0.593
5.05	45 0.302 NUMBER 66	0.183 40	0.050 11	0.077 17	0.013 3	0.045 10	0.325 71	3.953 TOTAL RESPONDENTS FOR ITEM	2.168	0.262 45= 152	1.450	5.000	5.964	4.514
5.06	46 0.293 NUMBER 64	0.032 7	0.013 3	0.032 7	0.018 4	0.096 21	0.509 111	5.366 TOTAL RESPONDENTS FOR ITEM	1.307	0.270 46= 153	5.321	5.810	6.155	0.555
5.07	47 0.315 NUMBER 69	0.036 8	0.022 5	0.041 9	0.009 2	0.059 13	0.513 112	5.302 TOTAL RESPONDENTS FOR ITEM	1.441	0.224 47= 149	5.502	5.834	6.167	0.665
6.01	48 0.302 NUMBER 66	0.032 7	0.009 2	0.059 13	0.036 8	0.110 24	0.449 98	5.197 TOTAL RESPONDENTS FOR ITEM	1.362	0.246 48= 152	4.833	5.724	6.114	1.278
6.02	49 0.302 NUMBER 66	0.055 12	0.018 4	0.055 12	0.009 2	0.107 23	0.362 79	4.953 TOTAL RESPONDENTS FOR ITEM	1.531	0.190 49= 152	4.686	5.537	6.018	1.332
6.03	50 0.302 NUMBER 66	0.243 53	0.123 27	0.160 35	0.032 7	0.050 11	0.087 19	2.690 TOTAL RESPONDENTS FOR ITEM	1.713	0.282 50= 152	1.216	2.351	3.471	2.254
6.04	51 0.334 NUMBER 73	0.233 51	0.082 18	0.128 28	0.091 20	0.036 8	0.091 20	2.834 TOTAL RESPONDENTS FOR ITEM	1.761	0.230 51= 145	1.210	2.645	4.087	2.876
6.05	52 0.325 NUMBER 71	0.206 45	0.174 38	0.192 42	0.009 2	0.004 1	0.087 19	2.544 TOTAL RESPONDENTS FOR ITEM	1.574	0.160 52= 147	1.316	2.250	3.148	1.832
6.06	53 0.307 NUMBER 67	0.197 43	0.077 17	0.178 39	0.087 19	0.087 19	0.064 14	2.973 TOTAL RESPONDENTS FOR ITEM	1.647	0.201 53= 151	1.377	2.897	4.250	2.872
6.07	54 0.307 NUMBER 67	0.188 41	0.128 28	0.266 58	0.059 13	0.018 4	0.032 7	2.549 TOTAL RESPONDENTS FOR ITEM	1.295	0.105 54= 151	1.420	2.612	3.262	1.842
6.08	55 0.321 NUMBER 70	0.256 56	0.105 23	0.247 54	0.041 9	0.004 1	0.022 5	2.263 TOTAL RESPONDENTS FOR ITEM	1.232	0.214 55= 148	1.160	2.282	3.092	1.931

ADF-5

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
6.09	56 0.202	0.146	0.009	0.185	0.185	0.180	0.069	3.519	1.585	0.258	2.617	3.722	4.783	2.166
NUMBER	46	32	2	34	35	35	13	TOTAL RESPONDENTS FOR ITEM				56= 192		
6.10	57 0.302	0.041	0.018	0.160	0.215	0.165	0.096	4.052	1.286	0.249	3.214	4.095	5.027	1.813
NUMBER	65	9	4	35	47	36	21	TOTAL RESPONDENTS FOR ITEM				57= 192		
6.11	58 0.298	0.133	0.009	0.169	0.126	0.153	0.129	3.718	1.685	[illegible]	2.695	3.803	5.145	2.450
NUMBER	60	29	2	37	28	29	28	TOTAL RESPONDENTS FOR ITEM				58= 193		
6.12	59 0.311	0.270	0.073	0.096	0.123	0.027	0.096	2.786	1.798	0.151	1.135	2.500	4.111	2.975
NUMBER	68	59	16	21	27	6	21	TOTAL RESPONDENTS FOR ITEM				59= 150		
6.13	60 0.302	0.536	0.068	0.036	0.041	0.004	0.009	1.473	1.025	[illegible]	0.824	1.149	1.474	0.649
NUMBER	66	117	15	8	9	1	2	TOTAL RESPONDENTS FOR ITEM				60= 192		
6.14	61 0.350	0.591	0.096	0.068	0.123	0.013	0.055	1.985	1.508	-0.024	0.901	1.302	2.850	1.948
NUMBER	71	129	21	15	27	3	12	TOTAL RESPONDENTS FOR ITEM				61= 207		
6.15	62 0.377	0.389	0.055	0.142	0.091	0.022	0.220	2.950	2.024	[illegible]	1.091	2.612	5.050	3.958
NUMBER	77	85	12	31	20	5	48	TOTAL RESPONDENTS FOR ITEM				62= 201		
6.16	63 0.324	0.582	0.018	0.004	0.036	0.004	0.018	1.372	1.101	0.156	0.785	1.070	1.356	0.570
NUMBER	68	127	4	1	8	1	4	TOTAL RESPONDENTS FOR ITEM				63= 145		
6.17	64 0.115	0.591	0.027	0.018	0.064	0.174	0.009	2.129	1.703	-0.233	0.874	1.248	3.910	3.036
NUMBER	25	129	6	4	14	38	2	TOTAL RESPONDENTS FOR ITEM				64= 193		
6.18	65 0.114	0.211	0.119	0.178	0.114	0.146	0.114	3.238	1.729	-0.066	1.586	3.128	4.773	3.186
NUMBER	25	46	26	39	25	32	25	TOTAL RESPONDENTS FOR ITEM				65= 193		
6.19	66 0.187	0.233	0.160	0.252	0.151	0.068	0.045	2.778	1.439	-0.013	1.475	2.745	3.750	2.274
NUMBER	19	51	35	55	33	15	10	TOTAL RESPONDENTS FOR ITEM				66= 199		
7.01	67 0.100	0.197	0.096	0.009	0.022	0.027	0.545	4.362	2.177	0.188	1.785	5.676	6.088	4.302
NUMBER	22	43	21	2	5	6	119	TOTAL RESPONDENTS FOR ITEM				67= 196		
7.02	68 0.119	0.188	0.087	0.041	0.013	0.036	0.513	4.322	2.152	0.240	1.868	5.642	6.071	4.203
NUMBER	26	41	19	9	3	8	112	TOTAL RESPONDENTS FOR ITEM				68= 192		
7.03	69 0.293	0.096	0.013	0.050	0.013	0.018	0.513	4.961	1.840	0.235	4.625	5.812	6.156	1.531
NUMBER	64	21	3	11	3	4	112	TOTAL RESPONDENTS FOR ITEM				69= 154		
7.04	70 0.288	0.096	0.018	0.050	0.027	0.036	0.481	4.877	1.839	0.207	3.958	5.761	6.130	2.172
NUMBER	63	21	4	11	6	8	105	TOTAL RESPONDENTS FOR ITEM				70= 155		
7.05	71 0.082	0.059	0.004	0.018	0.018	0.032	0.784	5.520	1.330	-0.132	5.622	5.915	6.207	0.584
NUMBER	18	13	1	4	4	7	171	TOTAL RESPONDENTS FOR ITEM				71= 200		
7.06	72 0.064	0.064	0.027	0.077	0.311	0.022	0.431	4.598	1.525	-0.113	3.705	4.455	5.957	2.251
NUMBER	14	14	6	17	68	5	94	TOTAL RESPONDENTS FOR ITEM				72= 204		
7.07	73 0.091	0.133	0.036	0.174	0.041	0.110	0.412	4.318	1.873	-0.034	2.828	5.125	5.950	3.121
NUMBER	20	29	8	38	9	24	90	TOTAL RESPONDENTS FOR ITEM				73= 198		

85

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
7.08	74 0.092	0.128	0.068	0.197	0.096	0.133	0.293	4.000	1.789	-0.053	2.662	4.166	5.718	3.055
	NUMBER 18	28	15	43	21	29	64	TOTAL RESPONDENTS FOR ITEM 74= 200						
7.09	75 0.095	0.110	0.032	0.178	0.100	0.197	0.284	4.213	1.693	-0.100	2.967	4.651	5.705	2.737
	NUMBER 21	24	7	39	22	43	62	TOTAL RESPONDENTS FOR ITEM 75= 197						
7.10	76 0.09	0.142	0.059	0.091	0.110	0.119	0.380	4.269	1.877	-0.172	2.762	4.903	5.906	3.144
	NUMBER 21	31	13	20	24	26	83	TOTAL RESPONDENTS FOR ITEM 76= 197						
7.11	77 0.10	0.252	0.091	0.133	0.078	0.041	0.307	3.535	2.068	-0.246	1.390	3.293	5.768	4.377
	NUMBER 22	55	20	29	16	9	67	TOTAL RESPONDENTS FOR ITEM 77= 196						
8.01	78 0.08	0.055	0.027	0.082	0.013	0.036	0.697	5.230	1.523	-0.072	5.518	5.845	6.172	0.654
	NUMBER 19	12	6	18	3	8	152	TOTAL RESPONDENTS FOR ITEM 78= 199						
8.02	79 0.091	0.013	0.022	0.077	0.018	0.064	0.711	5.454	1.187	0.111	5.541	5.861	6.180	0.638
	NUMBER 20	3	5	17	4	14	155	TOTAL RESPONDENTS FOR ITEM 79= 198						
8.03	80 0.087	0.082	0.004	0.055	0.059	0.077	0.633	5.130	1.573	-0.091	4.838	5.778	6.139	1.301
	NUMBER 19	18	1	12	13	17	138	TOTAL RESPONDENTS FOR ITEM 80= 199						
8.04	81 0.087	0.018	0.004	0.032	0.009	0.045	0.802	5.703	0.949	-0.025	5.647	5.931	6.215	0.568
	NUMBER 19	4	1	7	2	10	175	TOTAL RESPONDENTS FOR ITEM 81= 199						
8.05	82 0.100	0.055	0.032	0.068	0.041	0.096	0.605	5.122	1.520	0.070	4.785	5.757	6.126	1.343
	NUMBER 22	12	7	15	9	21	132	TOTAL RESPONDENTS FOR ITEM 82= 196						
8.06	83 0.100	0.064	0.022	0.068	0.032	0.142	0.568	5.081	1.529	0.038	4.758	5.709	6.104	1.346
	NUMBER 22	14	5	15	7	31	124	TOTAL RESPONDENTS FOR ITEM 83= 196						
8.07	84 0.091	0.114	0.073	0.197	0.022	0.114	0.385	4.217	1.858	0.141	2.697	4.900	5.910	3.213
	NUMBER 20	25	16	43	5	25	84	TOTAL RESPONDENTS FOR ITEM 84= 198						
8.08	85 0.091	0.151	0.087	0.114	0.013	0.123	0.417	4.237	1.982	0.065	2.368	5.203	5.956	3.587
	NUMBER 20	33	19	25	3	27	91	TOTAL RESPONDENTS FOR ITEM 85= 198						
8.09	86 0.095	0.229	0.050	0.105	0.188	0.059	0.270	3.675	1.944	-0.190	1.485	3.853	5.665	4.180
	NUMBER 21	50	11	23	41	13	59	TOTAL RESPONDENTS FOR ITEM 86= 197						
8.10	87 0.105	0.192	0.146	0.192	0.119	0.096	0.146	3.246	1.733	-0.044	1.710	3.059	4.702	2.991
	NUMBER 23	42	32	42	26	21	32	TOTAL RESPONDENTS FOR ITEM 87= 195						
8.11	88 0.100	0.426	0.096	0.160	0.073	0.073	0.068	2.418	1.662	-0.124	1.026	1.738	3.442	2.415
	NUMBER 22	93	21	35	16	16	15	TOTAL RESPONDENTS FOR ITEM 88= 196						
8.12	89 0.087	0.155	0.077	0.266	0.123	0.119	0.169	3.527	1.679	0.058	2.426	3.330	5.009	2.583
	NUMBER 19	34	17	58	27	26	37	TOTAL RESPONDENTS FOR ITEM 89= 199						
8.13	90 0.091	0.284	0.110	0.266	0.077	0.091	0.077	2.797	1.611	0.004	1.298	2.724	3.764	2.466
	NUMBER 20	62	24	58	17	20	17	TOTAL RESPONDENTS FOR ITEM 90= 198						
8.14	91 0.091	0.279	0.155	0.208	0.197	0.036	0.032	2.616	1.397	0.067	1.311	2.588	3.697	2.386
	NUMBER 20	61	34	45	43	8	7	TOTAL RESPONDENTS FOR ITEM 91= 198						

A-7

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	R-C.R	Q1	Q2	Q3	IQR
8.15	92	0.087	0.133	0.087	0.192	0.174	0.091	0.233	3.773	1.725	-0.159	2.541	3.[illegible]	[illegible]	2.982
	NUMBER	19	29	19	42	38	20	51	TOTAL RESPONDENTS FOR ITEM 92= 195						
8.16	93	0.091	0.279	0.165	0.197	0.096	0.045	0.123	2.818	1.737	-0.044	1.511	2.546	3.924	2.593
	NUMBER	20	61	36	43	21	10	27	TOTAL RESPONDENTS FOR ITEM 93= 198						
8.17	94	0.091	0.344	0.197	0.110	0.018	0.036	0.201	2.792	1.967	-0.350	1.160	2.[illegible]	4.812	3.652
	NUMBER	20	75	43	24	4	8	44	TOTAL RESPONDENTS FOR ITEM 94= 195						
8.18	95	0.091	0.142	0.059	0.266	0.197	0.055	0.188	3.580	1.636	-0.166	2.594	3.448	4.791	2.196
	NUMBER	20	31	13	58	43	12	41	TOTAL RESPONDENTS FOR ITEM 95= 198						
8.19	96	0.[illegible]	0.233	0.096	0.238	0.220	0.073	0.068	3.009	1.324	-0.097	1.495	3.067	4.088	2.593
	NUMBER	[illegible]	51	21	52	48	16	15	TOTAL RESPONDENTS FOR ITEM 96= 203						
8.20	97	0.096	0.376	0.059	0.073	0.096	0.087	0.211	3.101	2.077	-0.265	1.100	2.718	5.328	4.228
	NUMBER	21	82	13	16	21	19	46	TOTAL RESPONDENTS FOR ITEM 97= 197						
8.21	98	0.091	0.064	0.018	0.064	0.215	0.059	0.486	4.613	1.527	-0.156	3.672	5.506	6.033	2.160
	NUMBER	20	14	4	14	47	13	106	TOTAL RESPONDENTS FOR ITEM 98= 198						
8.22	99	0.041	0.215	0.059	0.100	0.073	0.220	0.288	3.928	1.951	-0.210	1.903	4.633	5.670	3.766
	NUMBER	9	47	13	22	16	48	63	TOTAL RESPONDENTS FOR ITEM 99= 209						
8.23	100	0.036	0.142	0.045	0.105	0.142	0.119	0.408	4.323	1.828	-0.024	3.000	4.864	5.910	2.910
	NUMBER	8	31	10	23	31	26	89	TOTAL RESPONDENTS FOR ITEM 100= 210						
8.24	101	0.036	0.197	0.050	0.068	0.224	0.133	0.288	3.947	1.859	-0.221	2.363	4.234	5.666	3.303
	NUMBER	8	43	11	15	49	29	63	TOTAL RESPONDENTS FOR ITEM 101= 210						
8.25	102	0.050	0.284	0.059	0.119	0.105	0.146	0.233	3.497	1.990	-0.226	1.334	3.608	5.476	4.141
	NUMBER	11	62	13	26	23	32	51	TOTAL RESPONDENTS FOR ITEM 102= 207						
8.26	103	0.050	0.481	0.045	0.165	0.045	0.096	0.114	2.550	1.848	-0.232	0.992	1.485	3.925	2.932
	NUMBER	11	105	10	36	10	21	25	TOTAL RESPONDENTS FOR ITEM 103= 207						
9.01	104	0.100	0.467	0.192	0.032	0.000	0.004	0.201	2.428	2.002	-0.273	0.980	1.410	2.928	1.948
	NUMBER	22	102	42	7	0	1	44	TOTAL RESPONDENTS FOR ITEM 104= 196						
9.02	105	0.082	0.114	0.142	0.298	0.073	0.091	0.197	3.520	1.673	0.084	2.306	3.176	5.150	2.843
	NUMBER	18	25	31	65	16	20	43	TOTAL RESPONDENTS FOR ITEM 105= 200						
9.03	106	0.073	0.233	0.201	0.215	0.050	0.059	0.165	2.995	1.773	-0.169	1.490	2.627	4.363	2.873
	NUMBER	16	51	44	47	11	13	36	TOTAL RESPONDENTS FOR ITEM 106= 202						
9.04	107	0.087	0.435	0.169	0.068	0.105	0.036	0.096	2.371	1.710	-0.275	1.023	1.621	3.591	2.574
	NUMBER	19	95	37	15	23	8	21	TOTAL RESPONDENTS FOR ITEM 107= 199						
9.05	108	0.077	0.435	0.137	0.105	0.068	0.050	0.123	2.492	1.812	-0.120	1.028	1.683	3.683	2.654
	NUMBER	17	95	30	23	15	11	27	TOTAL RESPONDENTS FOR ITEM 108= 201						
9.06	109	0.087	0.371	0.243	0.151	0.009	0.032	0.105	2.346	1.630	-0.256	1.114	1.849	2.962	1.847
	NUMBER	19	81	53	33	2	7	23	TOTAL RESPONDENTS FOR ITEM 109= 19[illegible]						

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
110	0.105	0.344	0.201	0.110	0.036	0.036	0.165	2.652	1.878	-0.237	1.150	2.011	3.906	2.756
9.07 NUMBER	21	75	44	24	8	8	36	TOTAL RESPONDENTS FOR ITEM 110= 195						
111	0.050	0.082	0.041	0.119	0.022	0.105	0.577	4.853	1.702	-0.107	3.451	5.076	6.039	2.587
10.01 NUMBER	11	18	9	26	5	23	126	TOTAL RESPONDENTS FOR ITEM 111= 207						
112	0.055	0.142	0.105	0.178	0.019	0.059	0.440	4.131	1.974	0.045	2.391	4.561	5.963	3.572
10.02 NUMBER	12	31	23	39	4	13	96	TOTAL RESPONDENTS FOR ITEM 112= 208						
113	0.050	0.155	0.018	0.105	0.045	0.110	0.513	4.555	1.907	-0.193	3.097	5.575	6.037	2.940
10.03 NUMBER	11	34	4	23	10	24	112	TOTAL RESPONDENTS FOR ITEM 113= 207						
114	0.045	0.036	0.032	0.045	0.036	0.206	0.596	5.235	1.310	-0.095	4.922	5.703	6.103	1.177
10.04 NUMBER	10	8	7	10	8	45	130	TOTAL RESPONDENTS FOR ITEM 114= 208						
115	0.000	0.201	0.133	0.197	0.036	0.059	0.321	3.613	1.985	0.007	1.767	3.209	5.760	3.993
10.05 NUMBER	11	44	29	43	8	13	70	TOTAL RESPONDENTS FOR ITEM 115= 207						
116	0.045	0.013	0.004	0.059	0.018	0.041	0.816	5.639	0.995	-0.044	5.623	5.915	6.207	0.584
10.06 NUMBER	10	3	1	13	4	9	178	TOTAL RESPONDENTS FOR ITEM 116= 208						
117	0.082	0.151	0.123	0.224	0.036	0.027	0.353	3.790	1.948	-0.062	2.129	3.316	5.850	3.721
10.07 NUMBER	18	33	27	49	8	6	77	TOTAL RESPONDENTS FOR ITEM 117= 200						
118	0.059	0.041	0.009	0.119	0.027	0.087	0.655	5.209	1.407	0.021	4.934	5.783	6.141	1.207
10.08 NUMBER	13	9	2	26	6	19	143	TOTAL RESPONDENTS FOR ITEM 118= 205						
119	0.055	0.344	0.087	0.119	0.027	0.087	0.279	3.281	2.128	-0.129	1.186	2.846	5.655	4.469
11.01 NUMBER	12	75	19	26	6	19	61	TOTAL RESPONDENTS FOR ITEM 119= 206						
120	0.045	0.119	0.059	0.142	0.018	0.036	0.577	4.600	1.903	0.219	2.919	5.674	6.087	3.167
11.02 NUMBER	10	26	13	31	4	8	126	TOTAL RESPONDENTS FOR ITEM 120= 208						
121	0.064	0.261	0.073	0.169	0.041	0.041	0.348	3.612	2.096	0.071	1.394	3.283	5.828	4.434
11.03 NUMBER	14	57	16	37	9	9	76	TOTAL RESPONDENTS FOR ITEM 121= 204						
122	0.064	0.174	0.064	0.229	0.009	0.041	0.417	3.995	2.006	0.114	2.428	3.500	5.939	3.510
11.04 NUMBER	14	38	14	50	2	9	91	TOTAL RESPONDENTS FOR ITEM 122= 204						
123	0.068	0.178	0.050	0.188	0.032	0.059	0.422	4.089	2.004	0.124	2.818	4.769	5.948	3.430
11.05 NUMBER	15	39	11	41	7	13	92	TOTAL RESPONDENTS FOR ITEM 123= 203						
124	0.059	0.091	0.119	0.174	0.004	0.055	0.495	4.380	1.895	0.160	2.638	5.550	6.025	3.387
11.06 NUMBER	13	20	26	38	1	12	108	TOTAL RESPONDENTS FOR ITEM 124= 205						
125	0.064	0.174	0.068	0.183	0.013	0.0[illegible]	0.449	4.107	2.031	0.173	2.366	5.100	5.979	3.612
11.07 NUMBER	14	38	15	40	3	11	98	TOTAL RESPONDENTS FOR ITEM 125= 204						
126	0.068	0.422	0.041	0.105	0.068	0.096	0.197	2.965	2.061	0.041	1.051	2.521	5.130	4.079
11.08 NUMBER	15	92	9	23	15	21	43	TOTAL RESPONDENTS FOR ITEM 126= 203						
127	0.055	0.178	0.045	0.165	0.077	0.137	0.339	4.024	1.911	0.078	2.569	4.533	5.804	3.234
11.09 NUMBER	12	39	10	36	17	30	74	TOTAL RESPONDENTS FOR ITEM 127= 206						

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	R-COR	D1	D2	D3	TOP
11.10	128 0.064 NUMBER 14	0.440 96	0.077 17	0.174 38	0.059 13	0.041 9	0.142 31	2.583	1.845	-0.039	1.031	1.852	3.699	2.622
								TOTAL RESPONDENTS FOR ITEM 128= 204						
11.11	129 0.054 NUMBER 11	0.509 111	0.142 31	0.064 14	0.013 3	0.032 7	0.188 41	2.454	1.982	0.004	0.966	1.652	3.445	2.480
								TOTAL RESPONDENTS FOR ITEM 129= 207						
11.12	130 0.044 NUMBER 10	0.412 90	0.064 14	0.142 31	0.036 8	0.110 24	0.174 38	2.882	1.996	0.194	1.069	2.092	4.947	3.870
								TOTAL RESPONDENTS FOR ITEM 130= 203						
11.13	131 0.055 NUMBER 12	0.220 48	0.041 9	0.169 37	0.105 23	0.174 38	0.233 51	3.713	1.882	0.239	1.888	3.891	5.400	3.997
								TOTAL RESPONDENTS FOR ITEM 131= 206						
11.14	132 0.041 NUMBER 12	0.087 19	0.027 6	0.073 16	0.027 6	0.068 15	0.660 144	5.058	1.665	0.146	4.800	5.784	6.142	4.342
								TOTAL RESPONDENTS FOR ITEM 132= 206						
11.15	133 0.054 NUMBER 11	0.316 69	0.064 14	0.165 36	0.027 6	0.050 11	0.288 63	3.326	2.109	0.21	1.221	2.958	5.710	4.489
								TOTAL RESPONDENTS FOR ITEM 133= 199						
11.16	134 0.042 NUMBER 11	0.243 53	0.036 8	0.128 28	0.027 6	0.082 18	0.399 87	3.945	2.124	0.276	1.443	4.777	5.925	4.481
								TOTAL RESPONDENTS FOR ITEM 134= 200						
11.17	135 0.042 NUMBER 11	0.211 46	0.050 11	0.188 41	0.050 11	0.137 30	0.279 61	3.755	1.950	0.151	1.865	3.681	5.680	3.810
								TOTAL RESPONDENTS FOR ITEM 135= 200						
11.18	136 0.037 NUMBER 11	0.270 59	0.064 14	0.160 35	0.059 13	0.133 29	0.233 51	3.457	1.989	0.142	1.351	3.285	5.514	4.102
								TOTAL RESPONDENTS FOR ITEM 136= 201						
12.01	137 0.068 NUMBER 15	0.114 25	0.036 8	0.068 15	0.004 1	0.032 7	0.674 147	4.960	1.829	-0.067	4.750	5.809	6.154	1.404
								TOTAL RESPONDENTS FOR ITEM 137= 203						
12.02	138 0.051 NUMBER 20	0.133 29	0.045 10	0.073 16	0.018 4	0.032 7	0.605 132	4.747	1.935	-0.084	3.156	5.750	6.165	2.966
								TOTAL RESPONDENTS FOR ITEM 138= 198						
12.03	139 0.037 NUMBER 17	0.100 22	0.041 9	0.096 21	0.004 1	0.022 5	0.655 143	4.925	1.811	-0.009	3.416	5.797	6.148	2.731
								TOTAL RESPONDENTS FOR ITEM 139= 201						
12.04	140 0.054 NUMBER 14	0.137 30	0.082 18	0.077 17	0.013 3	0.100 22	0.522 114	4.524	1.956	-0.018	2.676	5.605	6.052	3.376
								TOTAL RESPONDENTS FOR ITEM 140= 204						
12.05	141 0.059 NUMBER 13	0.068 15	0.077 17	0.100 22	0.018 4	0.110 24	0.564 123	4.824	1.713	-0.080	3.375	5.666	6.083	2.708
								TOTAL RESPONDENTS FOR ITEM 141= 205						
12.06	142 0.082 NUMBER 18	0.307 67	0.041 9	0.087 19	0.146 32	0.096 21	0.238 52	3.435	2.028	0.017	1.246	3.656	5.538	4.292
								TOTAL RESPONDENTS FOR ITEM 142= 200						
12.07	143 0.068 NUMBER 15	0.082 18	0.013 3	0.160 35	0.045 10	0.142 31	0.486 106	4.729	1.655	0.187	3.350	5.542	6.021	2.671
								TOTAL RESPONDENTS FOR ITEM 143= 203						
12.08	144 0.077 NUMBER 17	0.059 13	0.036 8	0.142 31	0.045 10	0.165 36	0.472 103	4.776	1.588	0.176	3.443	5.524	6.012	2.588
								TOTAL RESPONDENTS FOR ITEM 144= 201						
12.09	145 0.073 NUMBER 16	0.100 22	0.068 15	0.165 36	0.050 11	0.197 43	0.344 75	4.301	1.749	0.029	2.875	4.895	5.826	2.951
								TOTAL RESPONDENTS FOR ITEM 145= 202						

ADF 10

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	R-COR	21	22	23	24
12.10	146	0.082	0.541	0.032	0.055	0.036	0.068	0.183	2.575	2.086	-0.074	0.523	1.347	4.833	3.907
	NUMBER	19	118	7	12	8	15	40	TOTAL RESPONDENTS FOR ITEM 146= 200						
12.11	147	0.077	0.669	0.055	0.073	0.022	0.018	0.082	1.820	1.576	-0.054	0.544	1.188	1.895	1.051
	NUMBER	17	146	12	16	5	4	18	TOTAL RESPONDENTS FOR ITEM 147= 201						
12.12	148	0.073	0.550	0.022	0.050	0.013	0.036	0.252	2.695	2.241	-0.154	0.924	1.541	5.581	4.060
	NUMBER	16	120	5	11	3	8	55	TOTAL RESPONDENTS FOR ITEM 148= 202						
12.13	149	0.068	0.211	0.022	0.123	0.045	0.110	0.417	4.152	2.039	-0.051	2.449	5.062	5.942	3.492
	NUMBER	15	46	5	27	10	24	91	TOTAL RESPONDENTS FOR ITEM 149= 203						
12.14	150	0.082	0.559	0.022	0.032	0.013	0.032	0.256	2.680	2.244	-0.179	0.909	1.519	5.007	4.597
	NUMBER	18	122	5	7	3	7	56	TOTAL RESPONDENTS FOR ITEM 150= 206						
12.15	151	0.064	0.444	0.027	0.068	0.004	0.036	0.353	3.235	2.331	-0.224	1.025	2.333	5.637	4.811
	NUMBER	14	97	6	15	1	8	77	TOTAL RESPONDENTS FOR ITEM 151= 204						
12.16	152	0.178	0.275	0.022	0.045	0.013	0.045	0.417	3.955	2.296	-0.141	1.245	5.516	6.008	4.762
	NUMBER	39	60	5	10	3	10	91	TOTAL RESPONDENTS FOR ITEM 152= 179						
13.01	153	0.050	0.105	0.041	0.229	0.022	0.050	0.495	4.436	1.839	-0.074	2.890	5.546	6.023	3.133
	NUMBER	12	23	9	50	5	11	108	TOTAL RESPONDENTS FOR ITEM 153= 206						
13.02	154	0.064	0.334	0.087	0.114	0.036	0.119	0.243	3.264	2.083	-0.164	1.193	2.900	5.537	4.539
	NUMBER	14	73	19	25	8	26	53	TOTAL RESPONDENTS FOR ITEM 154= 204						
13.03	155	0.064	0.178	0.068	0.233	0.045	0.082	0.325	3.613	1.926	-0.010	2.300	3.441	5.781	3.401
	NUMBER	14	39	15	51	10	18	71	TOTAL RESPONDENTS FOR ITEM 155= 204						
13.04	156	0.045	0.178	0.091	0.183	0.077	0.068	0.344	3.844	1.947	0.060	2.125	3.735	5.813	3.588
	NUMBER	12	39	20	40	17	15	75	TOTAL RESPONDENTS FOR ITEM 156= 206						
13.05	157	0.064	0.366	0.110	0.183	0.059	0.087	0.128	2.759	1.816	-0.101	1.137	2.416	4.192	3.054
	NUMBER	14	80	24	40	13	19	28	TOTAL RESPONDENTS FOR ITEM 157= 204						
13.06	158	0.087	0.555	0.091	0.105	0.018	0.082	0.059	2.080	1.629	-0.015	0.911	1.322	2.856	1.947
	NUMBER	19	121	20	23	4	18	13	TOTAL RESPONDENTS FOR ITEM 158= 199						
13.07	159	0.077	0.417	0.055	0.155	0.041	0.119	0.133	2.771	1.918	-0.175	1.052	2.291	4.682	3.630
	NUMBER	17	91	12	34	9	26	29	TOTAL RESPONDENTS FOR ITEM 159= 201						
13.08	160	0.068	0.119	0.087	0.266	0.050	0.105	0.302	3.906	1.793	0.104	2.599	3.474	5.731	3.131
	NUMBER	15	26	19	58	11	23	66	TOTAL RESPONDENTS FOR ITEM 160= 203						
13.09	161	0.082	0.201	0.155	0.266	0.110	0.087	0.096	3.015	1.579	-0.021	1.676	2.879	4.083	2.406
	NUMBER	18	44	34	58	24	19	21	TOTAL RESPONDENTS FOR ITEM 161= 200						
13.10	162	0.059	0.133	0.100	0.293	0.151	0.146	0.114	3.448	1.534	-0.040	2.503	3.304	4.679	2.175
	NUMBER	13	29	22	64	33	32	25	TOTAL RESPONDENTS FOR ITEM 162= 205						
13.11	163	0.059	0.288	0.151	0.261	0.077	0.073	0.087	2.741	1.597	-0.038	1.313	2.614	3.544	2.230
	NUMBER	13	63	33	57	17	16	19	TOTAL RESPONDENTS FOR ITEM 163= 205						

AOE-11

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
13.12	164	0.064	0.376	0.128	0.142	0.066	0.110	0.110	2.720	1.9[illegible]8	0.08[illegible]	1.121	2.214	4.300	3.178
	NUMBER	14	82	28	31	15	24	24	TOTAL RESPONDENTS FOR ITEM 164= 204						
13.13	165	0.068	0.192	0.050	0.155	0.201	0.142	0.188	3.660	1.758	-0.003	2.295	3.829	5.185	2.890
	NUMBER	15	42	11	34	44	31	41	TOTAL RESPONDENTS FOR ITEM 165= 203						
14.01	166	0.077	0.417	0.041	0.114	0.096	0.055	0.197	2.915	2.049	-0.120	1.052	2.519	4.895	3.843
	NUMBER	17	91	9	25	21	12	43	TOTAL RESPONDENTS FOR ITEM 166= 201						
14.02	167	0.100	0.431	0.036	0.082	0.082	0.036	0.229	2.938	2.122	-0.047	1.021	1.999	5.520	4.495
	NUMBER	22	94	8	18	18	8	50	TOTAL RESPONDENTS FOR ITEM 167= 196						
14.03	168	0.073	0.454	0.041	0.082	0.110	0.050	0.188	2.811	2.032	-0.247	1.010	1.722	4.635	3.626
	NUMBER	16	99	9	18	24	11	41	TOTAL RESPONDENTS FOR ITEM 168= 202						
14.04	169	0.077	0.582	0.041	0.055	0.059	0.082	0.100	2.263	1.854	-0.226	0.895	1.291	3.711	2.820
	NUMBER	17	127	9	12	13	18	22	TOTAL RESPONDENTS FOR ITEM 169= 201						
14.05	170	0.077	0.536	0.032	0.050	0.077	0.055	0.169	2.557	2.036	-0.222	0.929	1.358	4.426	3.496
	NUMBER	17	117	7	11	17	12	37	TOTAL RESPONDENTS FOR ITEM 170= 201						
14.06	171	0.073	0.541	0.041	0.027	0.082	0.045	0.188	2.584	2.078	-0.149	0.927	1.355	4.550	3.622
	NUMBER	16	118	9	6	18	10	41	TOTAL RESPONDENTS FOR ITEM 171= 202						
14.07	172	0.0[illegible]	0.619	0.059	0.036	0.045	0.041	0.119	2.119	1.835	-0.187	0.872	1.244	2.843	1.971
	NUMBER	1[illegible]	135	13	8	10	9	26	TOTAL RESPONDENTS FOR ITEM 172= 201						
14.08	173	0.073	0.435	0.027	0.045	0.032	0.064	0.321	3.242	2.298	0.045	1.031	2.499	5.778	4.746
	NUMBER	16	95	6	10	7	14	70	TOTAL RESPONDENTS FOR ITEM 173= 202						
14.09	174	0.064	0.582	0.133	0.064	0.022	0.041	0.091	2.019	1.659	-0.126	0.901	1.303	2.396	1.494
	NUMBER	14	127	29	14	5	9	20	TOTAL RESPONDENTS FOR ITEM 174= 204						
14.10	175	0.068	0.472	0.059	0.100	0.036	0.082	0.178	2.714	2.033	-0.183	0.992	1.485	4.847	3.854
	NUMBER	15	103	13	22	8	18	39	TOTAL RESPONDENTS FOR ITEM 175= 203						
14.11	176	0.073	0.477	0.119	0.105	0.022	0.036	0.165	2.480	1.924	0.022	0.985	1.471	3.434	2.449
	NUMBER	16	104	26	23	5	8	36	TOTAL RESPONDENTS FOR ITEM 176= 202						
14.12	177	0.077	0.605	0.073	0.059	0.050	0.018	0.114	2.074	1.761	-0.003	0.880	1.261	2.711	1.830
	NUMBER	17	132	16	13	11	4	25	TOTAL RESPONDENTS FOR ITEM 177= 201						
14.13	178	0.096	0.619	0.045	0.087	0.009	0.022	0.119	2.035	1.777	-0.106	0.864	1.229	2.644	1.779
	NUMBER	21	135	10	19	2	5	26	TOTAL RESPONDENTS FOR ITEM 178= 197						
14.14	179	0.110	0.619	0.096	0.041	0.004	0.022	0.105	1.912	1.698	-0.071	0.859	1.218	1.959	1.140
	NUMBER	24	135	21	9	1	5	23	TOTAL RESPONDENTS FOR ITEM 179= 194						
14.15	180	0.128	0.678	0.055	0.041	0.013	0.027	0.055	1.647	1.435	-0.097	0.820	1.141	1.462	0.641
	NUMBER	28	148	12	9	3	6	12	TOTAL RESPONDENTS FOR ITEM 180= 190						
14.16	181	0.082	0.550	0.059	0.050	0.009	0.041	0.206	2.510	2.107	-0.263	0.916	1.343	4.944	4.027
	NUMBER	18	120	13	11	2	9	45	TOTAL RESPONDENTS FOR ITEM 181= 200						

ADI-12

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
14.17	182	0.087	0.573	0.064	0.050	0.018	0.032	0.174	2.336	2.005	-0.246	0.898	1.295	3.431	2.533
	NUMBER	19	125	14	11	4	7	38	TOTAL RESPONDENTS FOR ITEM 182= 199						
14.18	183	0.087	0.573	0.036	0.050	0.027	0.036	0.188	2.432	2.067	-0.276	0.998	1.295	4.374	3.476
	NUMBER	19	125	8	11	6	8	41	TOTAL RESPONDENTS FOR ITEM 183= 199						
14.19	184	0.077	0.541	0.045	0.050	0.027	0.041	0.215	2.597	2.132	-0.285	0.925	1.351	5.188	4.213
	NUMBER	17	118	10	11	6	9	47	TOTAL RESPONDENTS FOR ITEM 184= 201						
14.20	185	0.082	0.500	0.073	0.114	0.018	0.027	0.183	2.510	1.989	-0.488	0.958	1.417	3.500	2.541
	NUMBER	18	109	16	25	4	6	40	TOTAL RESPONDENTS FOR ITEM 185= 200						
14.21	186	0.067	0.467	0.059	0.045	0.009	0.018	0.311	2.984	2.298	-0.292	0.987	1.475	5.768	4.780
	NUMBER	14	102	13	10	2	4	68	TOTAL RESPONDENTS FOR ITEM 186= 199						
14.22	187	0.091	0.591	0.082	0.082	0.004	0.018	0.128	2.075	1.789	-0.182	0.883	1.267	2.583	1.699
	NUMBER	20	129	18	18	1	4	28	TOTAL RESPONDENTS FOR ITEM 187= 196						
14.23	188	0.046	0.555	0.055	0.059	0.013	0.009	0.211	2.446	2.090	-0.277	0.907	1.314	4.083	3.176
	NUMBER	21	121	12	13	3	2	46	TOTAL RESPONDENTS FOR ITEM 188= 197						
14.24	189	0.091	0.619	0.068	0.073	0.013	0.027	0.105	1.984	1.718	-0.199	0.855	1.233	2.392	1.533
	NUMBER	20	135	15	16	3	6	23	TOTAL RESPONDENTS FOR ITEM 189= 198						
14.25	190	0.082	0.513	0.036	0.073	0.000	0.032	0.261	2.765	2.220	-0.255	0.946	1.392	5.622	4.670
	NUMBER	18	112	8	16	0	7	57	TOTAL RESPONDENTS FOR ITEM 190= 200						
14.26	191	0.068	0.288	0.041	0.091	0.027	0.041	0.440	3.871	2.233	0.049	1.305	4.888	5.971	4.665
	NUMBER	15	63	9	20	6	9	96	TOTAL RESPONDENTS FOR ITEM 191= 203						
14.27	192	0.073	0.399	0.045	0.068	0.013	0.022	0.376	3.371	2.324	-0.070	1.080	2.766	5.884	4.803
	NUMBER	16	87	10	15	3	5	82	TOTAL RESPONDENTS FOR ITEM 192= 202						
14.28	193	0.087	0.458	0.041	0.077	0.018	0.027	0.288	2.979	2.246	-0.241	0.997	1.495	5.710	4.712
	NUMBER	19	100	9	17	4	6	63	TOTAL RESPONDENTS FOR ITEM 193= 199						
14.29	194	0.082	0.564	0.045	0.055	0.000	0.027	0.224	2.515	2.144	-0.275	0.906	1.313	5.333	4.426
	NUMBER	18	123	10	12	0	6	49	TOTAL RESPONDENTS FOR ITEM 194= 200						
14.30	[illegible]	0.087	0.600	0.045	0.055	0.018	0.004	0.188	2.281	2.015	-0.254	0.879	1.259	3.187	2.307
	NUMBER	19	131	10	12	4	1	41	TOTAL RESPONDENTS FOR ITEM 195= 199						
14.31	196	0.091	0.660	0.027	0.050	0.022	0.022	0.123	2.000	1.814	-0.294	0.843	1.187	2.250	1.406
	NUMBER	20	144	6	11	5	5	27	TOTAL RESPONDENTS FOR ITEM 196= 198						
14.32	197	0.073	0.394	0.059	0.068	0.032	0.059	0.311	3.257	2.241	-0.041	1.087	2.633	5.757	4.670
	NUMBER	16	86	13	15	7	13	68	TOTAL RESPONDENTS FOR ITEM 197= 202						
14.33	198	0.087	0.706	0.041	0.055	0.022	0.022	0.064	1.693	1.480	-0.169	0.823	1.146	1.469	0.646
	NUMBER	19	154	9	12	5	5	14	TOTAL RESPONDENTS FOR ITEM 198= 199						
14.34	199	0.087	0.779	0.036	0.032	0.000	0.000	0.064	1.462	1.313	-0.177	0.792	1.085	1.377	0.585
	NUMBER	19	170	8	7	0	0	14	TOTAL RESPONDENTS FOR ITEM 199= 199						

ACF-1[illegible]

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	G1	G2	G3	IQR
14.35	200	0.087	0.688	0.013	0.041	0.022	0.064	0.082	1.914	1.724	-0.252	0.851	1.165	1.494	0.663
	UMBER	19	150	3	9	5	14	18	TOTAL RESPONDENTS FOR ITEM 200= 199						
14.36	201	0.087	0.500	0.027	0.064	0.032	0.059	0.128	2.241	1.910	-0.300	0.8[illegible]9	1.239	3.374	2.495
	UMBER	19	131	6	14	7	13	28	TOTAL RESPONDENTS FOR ITEM 201= 199						
14.37	202	0.087	0.518	0.022	0.055	0.013	0.018	0.284	2.829	2.273	-0.270	0.940	1.380	5.697	4.757
	UMBER	19	113	5	12	3	4	62	TOTAL RESPONDENTS FOR ITEM 202= 199						

TEST RELIABILITY

SOURCE	DF	SS	M.S.
AMONG INDIVIDUALS	217.	1562492419.0000	7200425.01[illegible]
AMONG ITEMS	201.	-5021666315.0000	-24983412.00403
RESIDUAL	43617.	-1562300931.5000	-35815.62510
TOTAL	-21501.	-5021474830.0000	233546.06292

RELIABILITY COEFFICIENT = 1.00497

STANDARD ERROR OF MEASUREMENT =2689.86279

MEAN SCORE = 68216.828

STANDARD DEVIATION = 3[illegible]0.140

Optometrists

and

Optometric Assistants

Analysis of Proficiency

Items 1.01 to 14.37

Respondents = 218

AOP-2

ITEM	DVIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
1.01	0.030	0.160	0.004	0.009	0.045	0.160	0.566	4.840	1.846	0.272	4.607	5.655	6.082	1.475
	NUMBER 11	35	1	2	10	35	124	TOTAL RESPONDENTS FOR ITEM 1= 207						
1.02	0.036	0.242	0.009	0.013	0.027	0.192	0.477	4.400	2.084	0.318	1.490	5.476	5.995	4.504
	NUMBER 8	53	2	3	6	42	104	TOTAL RESPONDENTS FOR ITEM 2= 210						
1.03	0.045	0.233	0.009	0.013	0.068	0.236	0.389	4.293	2.013	[illegible]	1.999	5.134	5.335	3.335
	NUMBER 10	51	2	3	15	52	85	TOTAL RESPONDENTS FOR ITEM 3= 208						
1.04	0.077	0.316	0.013	0.064	0.059	0.137	0.330	3.736	2.175	0.226	1.628	4.550	5.802	4.573
	NUMBER 17	69	3	14	13	30	72	TOTAL RESPONDENTS FOR ITEM 4= 201						
1.05	[illegible]	0.252	0.009	0.046	0.073	0.192	0.366	4.112	2.062	0.220	1.451	4.964	5.859	4.427
	NUMBER 13	55	2	10	16	42	80	TOTAL RESPONDENTS FOR ITEM 5= 2[illegible]						
1.06	[illegible]	0.232	0.018	0.018	0.036	0.100	0.532	4.417	2.133	0.291	1.490	5.612	6.050	4.560
	NUMBER 13	52	4	4	8	22	116	TOTAL RESPONDENTS FOR ITEM 6= 206						
1.07	[illegible]	0.247	0.022	0.032	0.045	0.165	0.431	4.218	2.107	0.255	1.453	5.250	5.952	4.498
	2	[illegible]	5	7	10	36	94	TOTAL RESPONDENTS FOR ITEM 7= 208						
1.08	[illegible]	0.229	0.019	0.019	0.032	0.185	0.460	4.380	2.072	0.280	1.812	5.437	5.987	4.175
	NUMBER 13	50	4	4	7	40	100	TOTAL RESPONDENTS FOR ITEM 8= 208						
1.09	[illegible]	0.233	0.027	0.064	0.096	0.169	0.349	[illegible]	2.021	0.250	1.541	4.785	[illegible]	[illegible]
	NUMBER 12	51	6	14	21	37	76	TOTAL RESPONDENTS FOR ITEM 9= 208						
2.01	0.055	0.224	0.019	0.032	0.022	0.233	0.412	4.334	2.033	0.306	2.125	5.245	5.927	5.802
	NUMBER 12	49	4	7	5	51	90	TOTAL RESPONDENTS FOR ITEM 10= 206						
2.02	0.055	0.233	0.018	0.018	0.073	0.256	0.344	4.199	2.003	0.274	1.624	5.000	5.813	4.188
	NUMBER 12	51	4	4	16	56	75	TOTAL RESPONDENTS FOR ITEM 11= 208						
2.03	0.059	0.247	0.009	0.045	0.055	0.215	0.366	4.151	2.055	0.324	1.449	5.021	5.859	4.410
	NUMBER 13	54	2	10	12	47	80	TOTAL RESPONDENTS FOR ITEM 12= 205						
2.04	0.055	0.252	0.022	0.068	0.100	0.197	0.302	3.927	2.014	0.199	1.436	4.639	5.719	4.235
	NUMBER 12	55	5	15	22	43	66	TOTAL RESPONDENTS FOR ITEM 13= 206						
2.05	0.091	0.339	0.055	0.064	0.119	0.206	0.123	3.186	1.946	0.200	1.168	3.428	5.000	3.[illegible]31
	NUMBER 20	74	12	14	26	45	27	TOTAL RESPONDENTS FOR ITEM 14= 198						
2.06	0.087	0.366	0.027	0.032	0.041	0.137	0.307	3.522	2.245	0.201	1.121	4.222	5.757	4.635
	NUMBER 19	80	6	7	9	30	67	TOTAL RESPONDENTS FOR ITEM 15= 199						
2.07	0.068	0.133	0.000	0.027	0.073	0.233	0.463	4.788	1.713	0.241	4.484	5.490	5.997	1.513
	NUMBER 15	29	0	6	16	51	101	TOTAL RESPONDENTS FOR ITEM 16= 203						
2.08	0.068	0.385	0.022	0.036	0.068	0.160	0.256	3.394	2.184	0.072	1.104	3.800	5.595	4.489
	NUMBER 15	84	5	8	15	35	56	TOTAL RESPONDENTS FOR ITEM 17= 203						
2.09	0.077	0.279	0.018	0.041	0.064	0.146	0.371	3.970	2.150	0.211	1.323	4.890	5.679	4.555
	NUMBER 17	61	4	9	14	32	81	TOTAL RESPONDENTS FOR ITEM 18= 201						
3.01	0.077	0.467	0.022	0.041	0.064	0.110	0.215	2.970	2.169	0.243	0.992	1.485	5.364	4.371
	NUMBER 17	102	5	9	14	24	47	TOTAL RESPONDENTS FOR ITEM 19= 201						

AP-3

	ITEM	0	1	2	3	4	5	6	MEAN	STAN DEV	P-0.4	Q1	Q2	Q3	P-0.6
3.02	20	0.[illegible]85	0.646	0.004	0.054	0.055	0.082	0.163	2.194	1.872	[illegible]	0.865	1.250	3.025	2.799
	NUMBER	12	141	1	11	12	18	23	TOTAL RESPONDENTS FOR ITEM 20= 203						
3.03	21	0.068	0.522	0.041	0.055	0.045	0.151	0.114	2.576	1.979		0.159	0.945	1.393	4.719	3.774
	NUMBER	15	114	9	12	10	33	25	TOTAL RESPONDENTS FOR ITEM 21= 203						
3.04	22	0.073	0.215	0.000	0.032	0.054	0.179	0.449	4.430	2.019		0.218	3.000	5.423	5.934	2.934
	NUMBER	16	47	0	7	11	39	98	TOTAL RESPONDENTS FOR ITEM 22= 202						
3.05	23	0.068	0.334	0.022	0.036	0.110	0.160	0.266	3.576	2.123		0.132	1.195	4.145	5.625	4.429
	NUMBER	15	73	5	8	24	35	58	TOTAL RESPONDENTS FOR ITEM 23= 203						
3.06	24	0.059	0.255	0.027	0.004	0.050	0.169	0.431	4.214	2.132		0.242	1.415	5.270	5.954	4.539
	NUMBER	13	56	6	1	11	37	94	TOTAL RESPONDENTS FOR ITEM 24= 200						
3.07	25	0.064	0.270	0.032	0.032	0.022	0.160	0.417	4.093	2.172		0.251	1.364	5.185	5.939	4.575
	NUMBER	14	59	7	7	5	35	91	TOTAL RESPONDENTS FOR ITEM 25= 204						
3.08	26	0.068	0.412	0.036	0.055	0.064	0.140	0.201	3.137	2.122		0.116	1.083	2.791	5.307	4.243
	NUMBER	15	90	8	12	14	35	44	TOTAL RESPONDENTS FOR ITEM 26= 203						
3.09	27	0.073	0.266	0.018	0.018	0.036	0.238	0.348	4.089	2.106		0.200	1.375	5.015	5.339	4.464
	NUMBER	16	58	4	4	8	52	76	TOTAL RESPONDENTS FOR ITEM 27= 202						
4.01	28	0.037	0.027	0.000	0.004	0.009	0.114	0.536	5.589	1.050		0.811	5.532	5.654	6.177	0.645
	NUMBER	7	6	0	1	2	25	117	TOTAL RESPONDENTS FOR ITEM 28= 151						
4.02	29	0.302	0.064	0.018	0.013	0.041	0.146	0.412	5.046	1.561		0.248	4.750	5.655	6.077	1.327
	NUMBER	66	14	4	3	9	32	90	TOTAL RESPONDENTS FOR ITEM 29= 152						
4.03	30	0.298	0.059	0.013	0.018	0.050	0.169	0.389	5.032	1.505		0.309	4.695	5.600	6.050	1.354
	NUMBER	65	13	3	4	11	37	85	TOTAL RESPONDENTS FOR ITEM 30= 153						
4.04	31	0.298	0.032	0.004	0.004	0.041	0.192	0.426	5.333	1.171		0.343	4.982	5.677	6.088	1.106
	NUMBER	65	7	1	1	9	42	93	TOTAL RESPONDENTS FOR ITEM 31= 153						
4.05	32	0.316	0.077	0.004	0.013	0.064	0.137	0.385	4.953	1.619		0.351	4.579	5.613	6.056	1.481
	NUMBER	69	17	1	3	14	30	84	TOTAL RESPONDENTS FOR ITEM 32= 149						
4.06	33	0.311	0.022	0.000	0.009	0.027	0.201	0.426	5.420	1.034		0.322	5.056	5.693	6.096	1.039
	NUMBER	68	5	0	2	6	44	93	TOTAL RESPONDENTS FOR ITEM 33= 150						
4.07	34	0.298	0.151	0.009	0.032	0.022	0.114	0.371	4.503	2.016		0.254	2.964	5.555	6.027	3.065
	NUMBER	65	33	2	7	5	25	81	TOTAL RESPONDENTS FOR ITEM 34= 153						
4.08	35	0.325	0.311	0.000	0.041	0.036	0.100	0.183	3.244	2.211		0.209	1.040	3.111	5.581	4.540
	NUMBER	71	68	0	9	8	22	40	TOTAL RESPONDENTS FOR ITEM 35= 147						
4.09	36	0.311	0.041	0.009	0.013	0.050	0.174	0.399	5.186	1.333		0.292	4.828	5.637	6.066	1.240
	NUMBER	68	9	2	3	11	38	87	TOTAL RESPONDENTS FOR ITEM 36= 150						
4.10	37	0.307	0.064	0.000	0.013	0.027	0.160	0.426	3.165	1.480		0.258	4.921	5.688	6.094	1.172
	NUMBER	67	14	0	3	6	35	93	TOTAL RESPONDENTS FOR ITEM 37= 151						

APP 4

ITEM		OMIT	1	2	3	4	5	6	MEAN	STAN DEV	ERROR	S1	S2	S3	S4
4.11		38	0.300	0.169	0.009	0.036	0.069	0.146	0.288	4.230	2.027	0.160	2.030	0.093	0.876	0.996
	NUMBER		66	37	2	8	10	32	63	TOTAL RESPONDENTS FOR ITEM 38= 146						
4.12		39	0.321	0.036	0.042	0.036	0.055	0.261	0.266	4.891	1.358	0.442	4.572	5.219	5.864	1.091
	NUMBER		71	8	9	8	12	57	58	TOTAL RESPONDENTS FOR ITEM 39= 146						
4.13		40	0.299	0.100	0.013	0.036	0.041	0.192	0.321	4.662	1.751	0.231	4.111	5.033	5.933	1.998
	NUMBER		66	22	3	8	9	42	70	TOTAL RESPONDENTS FOR ITEM 40= 154						
5.01		41	0.299	0.036	0.000	0.004	0.022	0.119	0.518	5.483	1.183	0.292	5.492	5.823	6.161	0.728
	NUMBER		66	8	0	1	5	26	113	TOTAL RESPONDENTS FOR ITEM 41= 153						
5.02		42	0.332	0.114	0.027	0.032	0.059	0.146	0.293	4.448	1.870	0.272	3.921	5.203	5.923	2.004
	NUMBER		73	25	6	7	13	32	64	TOTAL RESPONDENTS FOR ITEM 42= 147						
5.03		43	0.299	0.041	0.000	0.013	0.055	0.174	0.417	5.241	1.278	0.339	4.875	5.659	6.079	1.204
	NUMBER		66	9	0	3	12	38	91	TOTAL RESPONDENTS FOR ITEM 43= 153						
5.04		44	0.311	0.036	0.000	0.000	0.045	0.110	0.495	5.440	1.202	0.269	5.012	5.805	6.192	0.940
	NUMBER		68	8	0	0	10	24	108	TOTAL RESPONDENTS FOR ITEM 44= 150						
5.05		45	0.321	0.169	0.018	0.027	0.055	0.151	0.256	4.135	2.029	0.261	1.500	4.954	5.835	4.339
	NUMBER		70	37	4	6	12	33	56	TOTAL RESPONDENTS FOR ITEM 45= 146						
5.06		46	0.216	0.036	0.000	0.009	0.041	0.201	0.394	5.279	1.214	0.289	4.914	5.633	6.000	1.366
	NUMBER		59	8	0	2	9	44	86	TOTAL RESPONDENTS FOR ITEM 46= 149						
5.07		47	0.334	0.041	0.013	0.018	0.027	0.146	0.417	5.220	1.331	0.222	4.945	5.703	6.101	1.156
	NUMBER		73	9	3	4	6	32	91	TOTAL RESPONDENTS FOR ITEM 47= 149						
6.01		48	0.316	0.041	0.004	0.022	0.059	0.229	0.325	5.060	1.311	0.315	4.685	5.440	5.975	1.270
	NUMBER		69	9	1	5	13	50	71	TOTAL RESPONDENTS FOR ITEM 48= 149						
6.02		49	0.325	0.064	0.013	0.032	0.045	0.192	0.325	4.877	1.560	0.248	4.565	5.440	5.982	1.416
	NUMBER		71	14	3	7	10	42	71	TOTAL RESPONDENTS FOR ITEM 49= 147						
6.03		50	0.321	0.224	0.041	0.036	0.105	0.142	0.128	3.418	1.976	0.307	1.255	3.847	5.209	3.734
	NUMBER		70	49	9	8	23	31	28	TOTAL RESPONDENTS FOR ITEM 50= 148						
6.04		51	0.362	0.206	0.032	0.041	0.064	0.123	0.169	3.589	2.066	0.279	1.272	4.107	5.560	4.288
	NUMBER		79	45	7	9	14	27	37	TOTAL RESPONDENTS FOR ITEM 51= 139						
6.05		52	0.348	0.174	0.027	0.032	0.077	0.169	0.169	3.845	1.976	0.257	1.434	4.581	5.540	4.10
	NUMBER		76	38	6	7	17	37	37	TOTAL RESPONDENTS FOR ITEM 52= 142						
6.06		53	0.334	0.188	0.013	0.041	0.082	0.160	0.178	3.827	1.994	0.193	1.384	4.542	5.570	4.106
	NUMBER		73	41	3	9	18	35	39	TOTAL RESPONDENTS FOR ITEM 53= 145						
6.07		54	0.325	0.169	0.032	0.068	0.091	0.160	0.151	3.734	1.903	0.206	1.493	4.225	5.392	3.899
	NUMBER		71	37	7	15	20	35	33	TOTAL RESPONDENTS FOR ITEM 54= 147						
6.08		55	0.353	0.247	0.013	0.027	0.064	0.160	0.133	3.425	2.077	0.199	1.152	4.035	5.321	4.168
	NUMBER		77	54	3	6	14	35	29	TOTAL RESPONDENTS FOR ITEM 55= 141						

App. 5

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	Q1	Q2	Q3	IQR
6.09	55 0.330	0.129	0.009	0.055	0.077	0.215	0.183	4.154	1.801	0.225	3.041	4.797	5.567	2.525
	NUMBER 72	25	2	12	17	47	40	TOTAL RESPONDENTS FOR ITEM 56= 146						
6.10	57 0.330	0.045	0.009	0.027	0.082	0.261	0.243	4.842	1.398	0.276	4.508	5.149	5.811	1.302
	NUMBER 72	10	2	6	18	57	53	TOTAL RESPONDENTS FOR ITEM 57= 146						
6.11	58 0.316	0.123	0.022	0.046	0.128	0.192	0.169	4.100	1.759	0.237	3.025	4.607	5.494	2.469
	NUMBER 69	27	5	10	28	42	37	TOTAL RESPONDENTS FOR ITEM 58= 149						
6.12	59 0.315	0.252	0.027	0.032	0.077	0.123	0.159	3.442	2.096	0.192	1.177	3.882	5.490	4.313
	NUMBER 69	55	6	7	17	27	37	TOTAL RESPONDENTS FOR ITEM 59= 149						
6.13	60 0.329	0.467	0.036	0.027	0.036	0.035	0.068	2.027	1.753	0.103	0.860	1.224	2.841	1.981
	NUMBER 71	102	8	6	8	8	15	TOTAL RESPONDENTS FOR ITEM 60= 147						
6.14	61 0.293	0.380	0.045	0.022	0.032	0.087	0.133	2.712	2.097	0.112	0.960	1.421	5.015	4.054
	NUMBER 65	83	10	5	7	19	29	TOTAL RESPONDENTS FOR ITEM 61= 153						
6.15	62 0.315	0.160	0.022	0.022	0.077	0.192	0.206	4.083	1.940	0.231	1.949	4.797	5.872	3.922
	NUMBER 69	35	5	5	17	42	45	TOTAL RESPONDENTS FOR ITEM 62= 149						
6.16	63 0.303	0.518	0.022	0.009	0.004	0.027	0.064	1.751	1.659	0.156	0.812	1.123	1.435	0.623
	NUMBER 67	113	5	2	1	6	14	TOTAL RESPONDENTS FOR ITEM 63= 141						
6.17	64 0.114	0.550	0.045	0.041	0.036	0.169	0.041	2.269	1.798	-0.205	0.902	2.304	4.215	3.313
	NUMBER 25	120	10	9	8	37	9	TOTAL RESPONDENTS FOR ITEM 64= 199						
6.18	65 0.119	0.362	0.064	0.050	0.059	0.133	0.211	3.192	2.123	0.149	1.107	2.772	5.435	4.323
	NUMBER 26	79	14	11	13	29	46	TOTAL RESPONDENTS FOR ITEM 65= 192						
6.19	66 0.160	0.362	0.082	0.045	0.064	0.110	0.174	3.000	2.072	0.168	1.079	2.194	5.177	4.097
	NUMBER 35	79	18	10	14	24	38	TOTAL RESPONDENTS FOR ITEM 66= 185						
7.01	67 0.137	0.188	0.082	0.009	0.022	0.110	0.449	4.313	2.114	0.228	1.833	5.540	6.020	4.187
	NUMBER 30	41	18	2	5	24	98	TOTAL RESPONDENTS FOR ITEM 67= 188						
7.02	68 0.348	0.055	0.009	0.004	0.036	0.155	0.389	5.147	1.462	0.321	4.667	5.664	6.082	1.214
	NUMBER 76	12	2	1	8	34	85	TOTAL RESPONDENTS FOR ITEM 68= 142						
7.03	69 0.284	0.119	0.000	0.018	0.027	0.137	0.412	4.820	1.830	0.319	4.600	5.633	6.066	1.466
	NUMBER 62	26	0	4	6	30	90	TOTAL RESPONDENTS FOR ITEM 69= 156						
7.04	70 0.243	0.178	0.004	0.004	0.032	0.169	0.368	4.466	2.025	0.261	3.535	5.432	5.984	2.448
	NUMBER 53	39	1	1	7	37	80	TOTAL RESPONDENTS FOR ITEM 70= 165						
7.05	71 0.100	0.059	0.004	0.004	0.036	0.192	0.600	5.336	1.312	-0.055	5.119	5.751	6.125	1.006
	NUMBER 22	13	1	1	8	42	131	TOTAL RESPONDENTS FOR ITEM 71= 196						
7.06	72 0.073	0.059	0.000	0.018	0.087	0.201	0.559	5.212	1.327	0.060	4.829	5.672	6.086	1.256
	NUMBER 16	13	0	4	19	44	122	TOTAL RESPONDENTS FOR ITEM 72= 202						
7.07	73 0.100	0.128	0.013	0.018	0.087	0.215	0.435	4.729	1.735	0.100	4.236	5.436	5.984	1.747
	NUMBER 22	28	3	4	19	47	95	TOTAL RESPONDENTS FOR ITEM 73= 196						

A 9-2

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	[illegible]	[illegible]	[illegible]	[illegible]
7.08	74 0.114 NUMBER 23	0.110 24	0.022 5	0.055 12	0.087 19	0.288 63	0.321 70	4.564 TOTAL RESPONDENTS FOR ITEM	1.556	0.03[illegible] 74= 193	0.331	0.279	0.310	1.925
7.09	75 0.110 NUMBER 24	0.096 21	0.022 5	0.036 8	0.110 24	0.293 64	0.330 72	4.654 TOTAL RESPONDENTS FOR ITEM	1.562	-0.045 75= 194	4.104	5.109	5.626	1.722
7.10	76 0.123 NUMBER 27	0.119 26	0.022 5	0.064 14	0.055 12	0.266 58	0.348 76	4.565 TOTAL RESPONDENTS FOR ITEM	1.725	-0.051 76= 192	3.729	5.163	5.671	2.142
7.11	77 0.119 NUMBER 26	0.238 52	0.018 4	0.064 14	0.050 11	0.233 51	0.275 60	3.963 TOTAL RESPONDENTS FOR ITEM	2.046	-0.133 77= 192	1.423	4.794	5.700	4.276
8.01	78 0.110 NUMBER 24	0.045 10	0.000 0	0.013 3	0.064 14	0.238 52	0.527 115	5.283 TOTAL RESPONDENTS FOR ITEM	1.212	0.045 78= 194	4.913	5.656	6.016	1.164
8.02	79 0.123 NUMBER 27	0.018 4	0.009 2	0.036 8	0.077 17	0.192 42	0.541 118	5.329 TOTAL RESPONDENTS FOR ITEM	1.093	0.169 79= 191	4.898	5.694	6.092	1.195
8.03	80 0.110 NUMBER 24	0.069 15	0.009 2	0.009 2	0.082 18	0.229 50	0.490 107	5.097 TOTAL RESPONDENTS FOR ITEM	1.416	0.013 80= 194	4.730	5.593	6.040	1.316
8.04	81 0.114 NUMBER 25	0.018 4	0.000 0	0.018 4	0.045 10	0.197 43	0.605 132	5.507 TOTAL RESPONDENTS FOR ITEM	0.944	0.082 81= 193	5.203	5.768	6.154	0.930
8.05	82 0.114 NUMBER 25	0.041 9	0.022 5	0.041 9	0.082 18	0.233 51	0.463 101	5.072 TOTAL RESPONDENTS FOR ITEM	1.333	0.136 82= 193	4.642	5.544	6.022	1.360
8.06	83 0.110 NUMBER 24	0.059 13	0.004 1	0.041 9	0.055 12	0.224 49	0.500 109	5.124 TOTAL RESPONDENTS FOR ITEM	1.396	0.074 83= 193	4.770	5.614	6.057	1.286
8.07	84 0.119 NUMBER 26	0.096 21	0.022 5	0.055 12	0.073 16	0.178 39	0.454 99	4.791 TOTAL RESPONDENTS FOR ITEM	1.670	0.157 84= 192	4.125	5.530	6.015	1.690
8.08	85 0.119 NUMBER 26	0.119 26	0.027 6	0.055 12	0.059 13	0.151 33	0.467 102	4.703 TOTAL RESPONDENTS FOR ITEM	1.791	0.166 85= 192	3.807	5.558	6.029	2.221
8.09	86 0.110 NUMBER 24	0.206 45	0.036 8	0.027 6	0.077 17	0.160 35	0.380 83	4.226 TOTAL RESPONDENTS FOR ITEM	2.030	-0.126 86= 194	1.937	5.100	5.915	3.978
8.10	87 0.123 NUMBER 27	0.169 37	0.041 9	0.041 9	0.105 23	0.201 44	0.316 69	4.230 TOTAL RESPONDENTS FOR ITEM	1.897	0.057 87= 191	2.694	4.897	5.807	3.113
8.11	88 0.114 NUMBER 25	0.380 83	0.027 6	0.045 10	0.091 20	0.155 34	0.183 40	3.186 TOTAL RESPONDENTS FOR ITEM	2.095	-0.065 88= 193	1.081	3.250	5.257	4.176
8.12	89 0.128 NUMBER 28	0.119 26	0.022 5	0.068 15	0.133 29	0.224 49	0.302 66	4.418 TOTAL RESPONDENTS FOR ITEM	1.701	0.228 89= 190	3.591	4.908	5.780	2.228
8.13	90 0.123 NUMBER 27	0.252 55	0.036 8	0.055 12	0.100 22	0.197 43	0.233 51	3.748 TOTAL RESPONDENTS FOR ITEM	2.012	0.145 90= 191	1.368	4.431	5.563	4.195
8.14	91 0.119 NUMBER 26	0.252 55	0.036 8	0.068 15	0.091 20	0.201 44	0.229 50	3.729 TOTAL RESPONDENTS FOR ITEM	2.035	0.142 91= 192	1.372	4.400	5.540	4.167

	ITEM	CRI	1	2	3	4	5	6	MEAN	STAN DEV	P-CRI	.1	.2	.3	.4
8.15	92	0.110	0.114	0.027	0.041	0.123	0.279	0.311	4.510	1.656	0.033	3.814	5.006	5.746	1.971
	NUMBER	24	25	6	9	27	61	68	TOTAL RESPONDENTS FOR ITEM 92= 194						
8.16	93	0.[illegible]	0.256	0.045	0.091	0.077	0.183	0.238	3.671	2.014	0.072	1.970	-0.176	5.582	4.191
	NUMBER	2[illegible]	56	10	20	17	40	52	TOTAL RESPONDENTS FOR ITEM 93= 195						
8.17	94	0.1[illegible]5	0.302	0.045	0.050	0.073	0.165	0.256	3.964	2.113	-0.222	1.232	4.130	5.629	4.370
	NUMBER	2[illegible]	66	10	11	16	36	56	TOTAL RESPONDENTS FOR ITEM 94= 192						
8.18	95	0.1[illegible]5	0.119	0.018	0.064	0.105	0.256	0.330	4.512	1.689	0.029	3.706	5.044	5.822	2.116
	NUMBER	2[illegible]	26	4	14	23	56	72	TOTAL RESPONDENTS FOR ITEM 95= 195						
8.19	96	0.1[illegible]	0.179	0.022	0.068	0.128	0.243	0.238	4.073	1.834	0.114	2.756	4.667	5.575	2.81[illegible]
	NUMBER	2[illegible]	39	5	15	28	53	52	TOTAL RESPONDENTS FOR ITEM 96= 192						
8.20	97	0.127	0.307	0.027	0.045	0.068	0.174	0.238	3.569	2.123	-0.20[illegible]	1.201	4.233	5.550	4.394
	NUMBER	30	67	6	10	15	38	52	TOTAL RESPONDENTS FOR ITEM 97= 186						
8.21	98	0.1[illegible]	0.050	0.009	0.022	0.068	0.197	0.541	5.221	1.318	-0.014	4.860	5.677	6.033	1.228
	NUMBER	2[illegible]	11	2	5	15	43	118	TOTAL RESPONDENTS FOR ITEM 98= 194						
8.22	99	0.0[illegible]	0.178	0.022	0.027	0.045	0.197	0.467	4.556	1.931	-0.094	3.629	5.486	5.997	2.372
	NUMBER	1[illegible]	39	5	6	10	43	102	TOTAL RESPONDENTS FOR ITEM 99= 205						
8.23	100	0.[illegible]	0.142	0.022	0.036	0.050	0.275	0.417	4.635	1.773	0.03[illegible]	4.161	5.300	5.934	1.752
	NUMBER	1[illegible]	31	5	8	11	60	91	TOTAL RESPONDENTS FOR ITEM 100= 2[illegible]						
8.24	101	0.0[illegible]	0.183	0.027	0.013	0.045	0.229	0.449	4.536	1.928	-0.213	3.775	5.390	5.971	2.196
	NUMBER	11	40	6	3	10	50	98	TOTAL RESPONDENTS FOR ITEM 101= 207						
8.25	102	0.004	0.252	0.041	0.022	0.036	0.233	0.348	4.073	2.088	-0.204	1.427	4.990	5.823	4.401
	NUMBER	14	55	9	5	8	51	76	TOTAL RESPONDENTS FOR ITEM 102= 204						
8.26	103	0.091	0.380	0.022	0.036	0.013	0.151	0.302	3.484	2.269	-0.182	1.095	4.500	5.750	4.653
	NUMBER	20	83	5	8	3	33	66	TOTAL RESPONDENTS FOR ITEM 103= 196						
9.01	104	0.138	0.357	0.064	0.059	0.059	0.128	0.197	3.148	2.100	-0.143	1.105	2.692	5.348	4.242
	NUMBER	2[illegible]	78	14	13	13	28	43	TOTAL RESPONDENTS FOR ITEM 104= 189						
9.02	105	0.110	0.114	0.027	0.041	0.119	0.282	0.298	4.500	1.656	0.198	3.826	4.992	5.753	1.926
	NUMBER	24	25	6	9	26	63	65	TOTAL RESPONDENTS FOR ITEM 105= 194						
9.03	106	0.077	0.183	0.055	0.050	0.073	0.284	0.275	4.134	1.889	-0.063	2.354	4.846	5.662	3.308
	NUMBER	17	40	12	11	16	62	60	TOTAL RESPONDENTS FOR ITEM 106= 201						
9.04	107	0.096	0.316	0.059	0.045	0.087	0.174	0.220	3.446	2.080	-0.168	1.213	3.842	5.467	4.253
	NUMBER	21	69	13	10	19	38	48	TOTAL RESPONDENTS FOR ITEM 107= 197						
9.05	108	0.100	0.389	0.050	0.032	0.077	0.178	0.169	3.127	2.087	-0.102	1.076	2.785	5.192	4.115
	NUMBER	22	85	11	7	17	39	37	TOTAL RESPONDENTS FOR ITEM 108= 196						
9.06	109	0.100	0.256	0.041	0.036	0.091	0.201	0.270	3.836	2.048	-0.077	1.375	4.613	5.669	4.294
	NUMBER	22	56	9	8	20	44	59	TOTAL RESPONDENTS FOR ITEM 109= 196						

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	R-COR	[illegible]	[illegible]	[illegible]	[illegible]
9.07	110	0.096	0.215	0.050	0.073	0.128	0.183	0.252	3.852	1.936	-0.103	1.704	4.375	5.004	3.899
	NUMBER	21	47	11	16	28	40	55	TOTAL RESPONDENTS FOR ITEM 110= 197						
10.01	111	0.07	0.073	0.018	0.055	0.073	0.220	0.481	4.945	1.513	-0.035	4.046	5.542	6.021	1.474
	NUMBER	17	16	4	12	16	48	105	TOTAL RESPONDENTS FOR ITEM 111= 201						
10.02	112	0.08	0.133	0.036	0.100	0.073	0.220	0.353	4.385	1.790	0.032	3.090	5.020	5.350	2.759
	NUMBER	16	29	8	22	16	48	77	TOTAL RESPONDENTS FOR ITEM 112= 200						
10.03	113	0.08	0.133	0.013	0.032	0.087	0.220	0.426	4.673	1.750	-0.150	4.065	5.304	5.965	1.899
	NUMBER	17	29	3	7	19	48	93	TOTAL RESPONDENTS FOR ITEM 113= 199						
10.04	114	0.08	0.036	0.018	0.018	0.077	0.211	0.550	5.256	1.235	0.031	4.864	5.670	6.065	1.221
	NUMBER	16	8	4	4	17	46	120	TOTAL RESPONDENTS FOR ITEM 114= 199						
10.05	115	0.09	0.178	0.041	0.036	0.091	0.256	0.302	4.227	1.886	0.000	2.687	4.910	5.750	3.064
	NUMBER	20	39	9	8	20	56	66	TOTAL RESPONDENTS FOR ITEM 115= 198						
10.06	116	0.07	0.018	0.004	0.009	0.082	0.211	0.596	5.442	0.971	0.059	5.048	5.726	6.115	1.084
	NUMBER	17	4	1	2	18	46	130	TOTAL RESPONDENTS FOR ITEM 116= 201						
10.07	117	0.114	0.133	0.022	0.041	0.133	0.220	0.334	4.455	1.748	0.061	3.681	5.010	5.859	2.156
	NUMBER	25	29	5	9	29	48	73	TOTAL RESPONDENTS FOR ITEM 117= 193						
10.08	118	0.09	0.041	0.009	0.032	0.059	0.279	0.490	5.190	1.233	0.095	4.607	5.570	6.055	1.227
	NUMBER	19	9	2	7	13	61	107	TOTAL RESPONDENTS FOR ITEM 118= 199						
11.01	119	0.087	0.284	0.036	0.045	0.100	0.165	0.279	3.728	2.065	-0.029	1.302	4.380	5.684	4.382
	NUMBER	19	62	8	10	22	36	61	TOTAL RESPONDENTS FOR ITEM 119= 199						
11.02	120	0.091	0.091	0.032	0.032	0.110	0.229	0.412	4.752	1.609	0.297	4.145	5.320	5.950	1.604
	NUMBER	20	20	7	7	24	50	90	TOTAL RESPONDENTS FOR ITEM 120= 198						
11.03	121	0.096	0.215	0.027	0.077	0.105	0.169	0.307	4.005	1.975	0.108	1.875	4.648	5.764	3.889
	NUMBER	21	47	6	17	23	37	67	TOTAL RESPONDENTS FOR ITEM 121= 197						
11.04	122	0.082	0.146	0.032	0.036	0.087	0.206	0.408	4.525	1.830	0.072	3.657	5.255	5.938	2.280
	NUMBER	18	32	7	8	19	45	89	TOTAL RESPONDENTS FOR ITEM 122= 200						
11.05	123	0.105	0.169	0.018	0.055	0.077	0.178	0.394	4.410	1.909	0.134	3.145	5.205	5.933	2.787
	NUMBER	23	37	4	12	17	39	86	TOTAL RESPONDENTS FOR ITEM 123= 195						
11.06	124	0.091	0.087	0.022	0.087	0.128	0.192	0.389	4.636	1.607	0.156	3.732	5.166	5.917	2.185
	NUMBER	20	19	5	19	28	42	85	TOTAL RESPONDENTS FOR ITEM 124= 198						
11.07	125	0.091	0.165	0.018	0.055	0.119	0.215	0.334	4.328	1.839	0.142	3.291	4.946	5.821	2.530
	NUMBER	20	36	4	12	26	47	73	TOTAL RESPONDENTS FOR ITEM 125= 198						
11.08	126	0.091	0.362	0.027	0.041	0.064	0.151	0.261	3.439	2.182	0.013	1.126	3.857	5.631	4.504
	NUMBER	20	79	6	9	14	33	57	TOTAL RESPONDENTS FOR ITEM 126= 198						
11.09	127	0.091	0.160	0.036	0.027	0.064	0.275	0.344	4.419	1.850	0.059	3.535	5.100	5.840	2.304
	NUMBER	20	35	8	6	14	60	75	TOTAL RESPONDENTS FOR ITEM 127= 198						

ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	M-COR	S1	S2	S3	KUR
11.10	128 NUMBER 19	0.080 83	0.036 8	0.059 13	0.082 18	0.142 31	0.211 46	3.221 TOTAL RESPONDENTS FOR ITEM 128= 199	2.110	-0.034	1.059	3.133	5.379	4.279
11.11	129 NUMBER 18	0.082 96	0.045 10	0.068 15	0.082 18	0.091 20	0.188 41	2.895 TOTAL RESPONDENTS FOR ITEM 129= 200	2.072	0.021	1.020	1.899	5.050	4.029
11.12	130 NUMBER 19	0.087 78	0.027 6	0.055 12	0.050 11	0.151 33	0.270 59	3.462 TOTAL RESPONDENTS FOR ITEM 130= 199	2.184	0.198	1.137	3.016	5.650	4.513
11.13	131 NUMBER 20	0.091 43	0.018 4	0.022 5	0.077 17	0.224 49	0.366 80	4.338 TOTAL RESPONDENTS FOR ITEM 131= 198	1.951	0.202	3.000	5.112	5.881	2.881
11.14	132 NUMBER 19	0.087 16	0.022 5	0.009 2	0.041 9	0.201 44	0.564 123	5.155 TOTAL RESPONDENTS FOR ITEM 132= 199	1.480	0.167	4.905	5.671	6.095	1.192
11.15	133 NUMBER 24	0.110 60	0.013 3	0.068 15	0.055 12	0.192 42	0.284 62	3.819 TOTAL RESPONDENTS FOR ITEM 133= 194	2.094	0.209	1.308	4.666	5.717	4.439
11.16	134 NUMBER 24	0.111 46	0.022 5	0.024 5	0.077 17	0.192 42	0.362 79	4.242 TOTAL RESPONDENTS FOR ITEM 134= 194	2.012	0.264	2.000	5.071	5.666	5.666
11.17	135 NUMBER 24	0.111 39	0.018 4	0.064 14	0.073 16	0.192 42	0.362 79	4.314 TOTAL RESPONDENTS FOR ITEM 135= 194	1.926	0.114	2.892	5.071	5.880	2.993
11.18	136 NUMBER 25	0.114 55	0.041 9	0.032 7	0.064 14	0.160 35	0.334 73	3.953 TOTAL RESPONDENTS FOR ITEM 136= 193	2.116	0.136	1.377	4.825	5.639	4.401
12.01	137 NUMBER 24	0.113 25	0.009 2	0.041 9	0.041 9	0.165 36	0.518 113	4.896 TOTAL RESPONDENTS FOR ITEM 137= 194	1.720	0.037	4.597	5.641	6.070	1.473
12.02	138 NUMBER 27	0.123 27	0.018 4	0.036 8	0.050 11	0.178 39	0.467 102	4.764 TOTAL RESPONDENTS FOR ITEM 138= 191	1.775	0.036	4.295	5.583	6.031	1.736
12.03	139 NUMBER 24	0.110 21	0.018 4	0.059 13	0.045 10	0.192 42	0.477 104	4.855 TOTAL RESPONDENTS FOR ITEM 139= 194	1.659	0.098	4.511	5.567	6.033	1.521
12.04	140 NUMBER 20	0.091 27	0.032 7	0.032 7	0.077 17	0.224 49	0.417 91	4.651 TOTAL RESPONDENTS FOR ITEM 140= 198	1.750	0.089	4.000	5.336	5.955	1.956
12.05	141 NUMBER 20	0.091 16	0.013 3	0.041 9	0.068 15	0.243 53	0.467 102	4.979 TOTAL RESPONDENTS FOR ITEM 141= 198	1.483	0.029	4.622	5.529	6.014	1.392
12.06	142 NUMBER 23	0.105 58	0.266 6	0.036 8	0.050 11	0.165 36	0.348 76	3.969 TOTAL RESPONDENTS FOR ITEM 142= 195	2.140	-0.005	1.340	4.902	5.858	4.518
12.07	143 NUMBER 23	0.105 14	0.004 1	0.036 8	0.105 23	0.247 54	0.435 95	4.984 TOTAL RESPONDENTS FOR ITEM 143= 195	1.401	0.157	4.550	5.453	5.986	1.435
12.08	144 NUMBER 22	0.100 12	0.000 0	0.050 11	0.119 26	0.288 63	0.385 84	4.938 TOTAL RESPONDENTS FOR ITEM 144= 196	1.327	0.151	4.500	5.277	5.916	1.416
12.09	145 NUMBER 21	0.096 22	0.004 1	0.059 13	0.110 24	0.270 59	0.357 78	4.680 TOTAL RESPONDENTS FOR ITEM 145= 197	1.584	0.047	4.052	5.152	5.868	1.816

A 2-10

	ITEM	OMI	1	2	3	4	5	6	MEAN	STAN DEV	R-COR	Q1	Q2	Q3	IQR
12.10	146	0.100	0.477	0.027	0.018	0.064	0.150	0.211	2.909	2.185	-0.029	0.971	1.442	5.353	4.392
	NUMBER	21	104	6	4	14	22	46	TOTAL RESPONDENTS FOR ITEM 146= 196						
12.11	147	0.076	0.573	0.050	0.059	0.086	0.055	0.128	2.263	1.901	-0.029	0.894	1.287	3.403	2.509
	NUMBER	2.	125	11	13	9	12	28	TOTAL RESPONDENTS FOR ITEM 147= 197						
12.12	148	0.101	0.472	0.027	0.036	0.045	0.125	0.197	2.914	2.162	-0.059	0.950	1.401	5.267	4.287
	NUMBER	20	103	6	8	10	25	43	TOTAL RESPONDENTS FOR ITEM 148= 198						
12.13	149	0.071	0.188	0.004	0.018	0.077	0.220	0.399	4.469	1.919	0.033	3.705	5.250	5.931	2.225
	NUMBER	21	41	1	4	17	48	87	TOTAL RESPONDENTS FOR ITEM 149= 198						
12.14	150	0.096	0.500	0.022	0.027	0.054	0.123	0.178	2.791	2.140	-0.139	0.951	1.403	5.120	4.168
	NUMBER	21	109	5	6	11	27	39	TOTAL RESPONDENTS FOR ITEM 150= 197						
12/15	151	0.091	0.371	0.013	0.032	0.059	0.142	0.288	3.500	2.226	-0.155	1.111	4.115	5.714	4.603
	NUMBER	21	81	3	7	13	31	63	TOTAL RESPONDENTS FOR ITEM 151= 198						
12.16	152	0.216	0.220	0.018	0.032	0.055	0.142	0.325	4.080	2.108	-0.015	1.401	5.000	5.890	4.489
	NUMBER	40	48	4	7	12	31	71	TOTAL RESPONDENTS FOR ITEM 152= 198						
13.01	153	0.100	0.096	0.013	0.059	0.100	0.311	0.316	4.632	1.564	-0.015	4.045	5.073	5.769	1.724
	NUMBER	22	21	3	13	22	68	69	TOTAL RESPONDENTS FOR ITEM 153= 196						
13.02	154	0.091	0.270	0.041	0.082	0.082	0.183	0.247	3.671	2.034	-0.003	1.338	4.222	5.533	4.195
	NUMBER	20	59	9	18	18	40	54	TOTAL RESPONDENTS FOR ITEM 154= 198						
13.03	155	0.155	0.155	0.036	0.055	0.110	0.270	0.266	4.230	1.798	0.029	3.062	4.830	5.659	2.596
	NUMBER	23	34	8	12	24	59	58	TOTAL RESPONDENTS FOR ITEM 155= 195						
13.04	156	0.047	0.146	0.027	0.059	0.114	0.238	0.325	4.366	1.785	0.114	3.403	4.951	5.799	2.395
	NUMBER	19	32	6	13	25	52	71	TOTAL RESPONDENTS FOR ITEM 156= 199						
13.05	157	0.100	0.293	0.050	0.050	0.100	0.188	0.215	3.540	2.043	-0.035	1.265	4.045	5.451	4.185
	NUMBER	22	64	11	11	22	41	47	TOTAL RESPONDENTS FOR ITEM 157= 196						
13.06	158	0.100	0.477	0.027	0.073	0.077	0.128	0.114	2.663	1.961	0.024	0.971	1.442	4.642	3.671
	NUMBER	22	104	6	16	17	28	25	TOTAL RESPONDENTS FOR ITEM 158= 196						
13.07	159	0.096	0.362	0.027	0.059	0.087	0.183	0.183	3.279	2.071	-0.145	1.123	3.526	5.268	4.145
	NUMBER	21	79	6	13	19	40	40	TOTAL RESPONDENTS FOR ITEM 159= 197						
13.08	160	0.123	0.110	0.041	0.087	0.100	0.220	0.316	4.403	1.718	0.099	3.276	4.947	5.807	2.531
	NUMBER	27	24	9	19	22	48	69	TOTAL RESPONDENTS FOR ITEM 160= 191						
13.09	161	0.123	0.169	0.050	0.077	0.160	0.233	0.183	3.900	1.776	-0.000	2.477	4.371	5.348	2.870
	NUMBER	27	37	11	17	35	51	40	TOTAL RESPONDENTS FOR ITEM 161= 191						
13.10	162	0.100	0.096	0.027	0.082	0.128	0.252	0.311	4.500	1.611	0.034	3.642	4.954	5.779	2.136
	NUMBER	22	21	6	18	28	55	68	TOTAL RESPONDENTS FOR ITEM 162= 196						
13.11	163	0.100	0.247	0.064	0.073	0.146	0.183	0.183	3.561	1.916	-0.017	1.407	3.937	5.279	3.867
	NUMBER	22	54	14	16	32	40	40	TOTAL RESPONDENTS FOR ITEM 163= 196						

	ITEM	DIF	1	2	3	4	5	6	MEAN	STA. DEV	T-TEST	Q1	Q2	Q3	Q4
13.12	164	0.098	0.325	0.041	0.087	0.098	0.174	0.178	3.319	2.011	0.087	1.193	3.473	5.233	4.035
	NUMBER	21	71	9	19	21	38	39	TOTAL RESPONDENTS FOR ITEM 164= 197						
13.13	165	0.105	0.183	0.022	0.055	0.123	0.238	0.270	4.143	1.861	0.034	2.612	4.759	5.673	5.361
	NUMBER	23	40	5	12	27	52	59	TOTAL RESPONDENTS FOR ITEM 165= 198						
14.01	166	0.105	0.353	0.032	0.050	0.091	0.174	0.192	3.312	2.092	-0.120	1.033	3.625	5.522	4.169
	NUMBER	23	77	7	11	20	38	42	TOTAL RESPONDENTS FOR ITEM 166= 199						
14.02	167	0.123	0.344	0.036	0.045	0.077	0.133	0.238	3.382	2.147	-0.044	1.136	3.047	5.561	4.443
	NUMBER	27	75	8	10	17	29	52	TOTAL RESPONDENTS FOR ITEM 167= 191						
14.03	168	0.123	0.389	0.032	0.050	0.073	0.142	0.205	3.184	2.130	-0.175	1.073	3.000	5.579	[illegible]
	NUMBER	23	85	7	11	16	31	45	TOTAL RESPONDENTS FOR ITEM 168= 195						
14.04	169	0.096	0.486	0.027	0.045	0.055	0.128	0.160	2.771	2.087	-0.143	0.964	1.427	4.594	4.026
	NUMBER	21	106	6	10	12	28	35	TOTAL RESPONDENTS FOR ITEM 169= 197						
14.05	170	0.096	0.449	0.032	0.050	0.050	0.119	0.201	2.959	2.148	-0.170	1.002	1.971	5.293	[illegible]
	NUMBER	21	98	7	11	11	26	44	TOTAL RESPONDENTS FOR ITEM 170= 197						
14.06	171	0.100	0.463	0.036	0.032	0.050	0.105	0.211	2.923	2.175	-0.090	0.985	1.470	5.369	4.384
	NUMBER	22	101	8	7	11	23	46	TOTAL RESPONDENTS FOR ITEM 171= 198						
14.07	172	0.055	0.527	0.022	0.032	0.055	0.100	0.151	2.587	2.067	-0.163	0.920	1.393	4.793	3.873
	NUMBER	12	115	5	7	12	22	33	TOTAL RESPONDENTS FOR ITEM 172= 194						
14.08	173	0.091	0.376	0.018	0.027	0.032	0.142	0.311	3.530	2.269	0.063	1.103	4.500	5.772	4.368
	NUMBER	20	82	4	6	7	31	68	TOTAL RESPONDENTS FOR ITEM 173= 198						
14.09	174	0.041	0.490	0.050	0.059	0.050	0.100	0.155	2.656	2.035	-0.049	0.962	1.425	4.795	3.832
	NUMBER	10	107	11	13	11	22	34	TOTAL RESPONDENTS FOR ITEM 174= 196						
14.10	175	0.100	0.403	0.022	0.022	0.055	0.192	0.201	3.239	2.168	-0.099	1.056	3.500	5.380	4.324
	NUMBER	22	88	5	5	12	42	44	TOTAL RESPONDENTS FOR ITEM 175= 196						
14.11	176	0.110	0.380	0.059	0.041	0.068	0.133	0.206	3.149	2.125	-0.028	1.084	2.611	5.379	4.294
	NUMBER	24	83	13	9	15	29	45	TOTAL RESPONDENTS FOR ITEM 176= 194						
14.12	177	0.091	0.495	0.050	0.041	0.064	0.100	0.155	2.661	2.045	0.007	0.958	1.416	4.795	3.837
	NUMBER	20	108	11	9	14	22	34	TOTAL RESPONDENTS FOR ITEM 177= 198						
14.13	178	0.114	0.527	0.045	0.041	0.050	0.096	0.123	2.450	1.971	-0.085	0.919	1.339	4.477	3.557
	NUMBER	25	115	10	9	11	21	27	TOTAL RESPONDENTS FOR ITEM 178= 193						
14.14	179	0.133	0.509	0.036	0.018	0.082	0.087	0.133	2.539	2.014	-0.088	0.925	1.351	4.539	3.613
	NUMBER	29	111	8	4	18	19	29	TOTAL RESPONDENTS FOR ITEM 179= 189						
14.15	180	0.133	0.568	0.045	0.022	0.064	0.082	0.082	2.185	1.823	-0.141	0.881	1.262	3.696	2.915
	NUMBER	29	124	10	5	14	18	18	TOTAL RESPONDENTS FOR ITEM 180= 189						
14.16	181	0.091	0.467	0.041	0.059	0.068	0.114	0.155	2.767	2.044	-0.165	0.985	1.470	4.880	3.894
	NUMBER	20	102	9	13	15	25	34	TOTAL RESPONDENTS FOR ITEM 181= 198						

105

ITEM		OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-COR	D1	D2	D3	D4
14.17	182	0.100	0.492	0.032	0.059	0.045	0.110	0.162	2.704	2.069	-0.171	0.957	1.412	4.926	3.993
	NUMBER	22	107	7	13	10	24	35	TOTAL RESPONDENTS FOR ITEM 182= 196						
14.18	183	0.096	0.481	0.041	0.064	0.041	0.096	0.178	2.741	2.089	-0.190	0.969	1.428	5.011	4.042
	NUMBER	21	105	9	14	9	21	39	TOTAL RESPONDENTS FOR ITEM 183= 197						
14.19	184	0.096	0.463	0.036	0.041	0.059	0.100	0.201	2.893	2.145	-0.195	0.987	1.473	5.261	4.273
	NUMBER	21	101	8	9	13	22	44	TOTAL RESPONDENTS FOR ITEM 184= 197						
14.20	185	0.091	0.431	0.027	0.055	0.082	0.114	0.197	3.015	2.116	-0.204	1.026	2.333	5.240	4.213
	NUMBER	20	94	6	12	18	25	43	TOTAL RESPONDENTS FOR ITEM 185= 196						
14.21	186	0.101	0.403	0.027	0.050	0.045	0.096	0.261	3.212	2.245	-0.220	1.045	2.727	5.055	4.503
	NUMBER	22	88	6	11	10	21	57	TOTAL RESPONDENTS FOR ITEM 186= 193						
14.22	187	0.102	0.490	0.046	0.045	0.082	0.087	0.114	2.507	1.939	-0.147	0.941	1.383	4.819	3.37[illegible]
	NUMBER	22	107	10	10	18	19	25	TOTAL RESPONDENTS FOR ITEM 187= 189						
14.23	188	0.102	0.472	0.027	0.041	0.041	0.128	0.169	2.812	2.122	-0.202	0.966	1.432	5.137	4.141
	NUMBER	22	103	6	9	9	28	37	TOTAL RESPONDENTS FOR ITEM 188= 192						
14.24	189	0.110	0.527	0.032	0.068	0.050	0.073	0.137	2.463	1.974	-0.149	0.921	1.343	4.272	3.990
	NUMBER	24	115	7	15	11	16	30	TOTAL RESPONDENTS FOR ITEM 189= 194						
14.25	190	0.110	0.431	0.032	0.041	0.[illegible]	0.114	0.211	3.030	2.165	-0.242	1.015	1.928	5.400	4.344
	NUMBER	24	94	7	9	13	25	46	TOTAL RESPONDENTS FOR ITEM 190= 194						
14.26	191	0.100	0.215	0.022	0.041	0.096	0.183	0.389	4.198	2.036	0.043	1.899	5.051	5.923	4.063
	NUMBER	22	47	5	9	21	29	85	TOTAL RESPONDENTS FOR ITEM 191= 196						
14.27	192	0.096	0.325	0.022	0.045	0.073	0.091	0.344	3.690	2.217	-0.054	1.193	4.291	5.343	4.649
	NUMBER	21	71	5	10	16	20	75	TOTAL RESPONDENTS FOR ITEM 192= 197						
14.28	193	0.119	0.380	0.027	0.045	0.059	0.110	0.256	3.296	2.205	-0.213	1.078	3.260	[illegible].642	4.564
	NUMBER	26	83	6	10	13	24	56	TOTAL RESPONDENTS FOR ITEM 193= 192						
14.29	194	0.110	0.477	0.050	0.036	0.055	0.077	0.192	2.757	2.122	-0.188	0.966	1.432	5.117	4.151
	NUMBER	24	104	11	8	12	17	42	TOTAL RESPONDENTS FOR ITEM 194= 194						
14.30	195	0.105	0.536	0.027	0.055	0.041	0.068	0.169	2.543	2.068	-0.200	0.916	1.333	4.716	3.800
	NUMBER	23	117	5	12	9	15	37	TOTAL RESPONDENTS FOR ITEM 195= 195						
14.31	196	0.105	0.568	0.027	0.032	0.041	0.073	0.151	2.415	2.032	-0.219	0.893	1.286	4.515	3.622
	NUMBER	23	124	6	7	9	16	33	TOTAL RESPONDENTS FOR ITEM 196= 195						
14.32	197	0.119	0.330	0.032	0.045	0.050	0.123	0.298	3.567	2.209	-0.020	1.166	4.136	5.761	4.594
	NUMBER	26	72	7	10	11	27	65	TOTAL RESPONDENTS FOR ITEM 197= 192						
14.33	198	0.096	0.628	0.027	0.036	0.036	0.068	0.105	2.121	1.893	-0.121	0.859	1.218	3.093	2.234
	NUMBER	21	137	6	8	8	15	23	TOTAL RESPONDENTS FOR ITEM 198= 197						
14.34	199	0.096	0.674	0.032	0.036	0.059	0.022	0.077	1.847	1.623	-0.131	0.835	1.170	1.607	0.772
	NUMBER	21	147	7	8	13	5	17	TOTAL RESPONDENTS FOR ITEM 199= 197						

	ITEM	OMIT	1	2	3	4	5	6	MEAN	STAN DEV	P-BIS	Q1	Q2	Q3	Q4
14.35	200	0.096	0.610	0.013	0.013	0.050	0.068	0.146	2.329	2.022	-0.197	0.570	1.240	4.295	3.425
	NUMBER	21	133	3	3	11	15	32	TOTAL RESPONDENTS FOR ITEM 200= 197						
14.36	201	0.105	0.564	0.009	0.013	0.041	0.114	0.161	2.598	2.098	-0.235	0.596	1.292	4.870	3.973
	NUMBER	23	123	2	3	9	25	33	TOTAL RESPONDENTS FOR ITEM 201= 195						
14.37	202	0.14	0.435	0.022	0.013	0.027	0.133	0.252	3.176	2.271	-0.181	1.007	1.800	5.326	4.614
	NUMBER	30	95	5	3	6	29	55	TOTAL RESPONDENTS FOR ITEM 202= 218						

ADP-14

TEST RELIABILITY

SOURCE	DF	SS	M.S.
AMONG INDIVIDUALS	217.	1830298627.0000	8434556.02343
AMONG ITEMS	201.	-5723932684.0000	-28-77272.05466
RESIDUAL	43617.	-1830077443.5000	-41957.89073
TOTAL	-21501.	-5723711500.0000	266206.75085

RELIABILITY COEFFICIENT = 1.00497

STANDARD ERROR OF MEASUREMENT =2911.27002

MEAN SCORE = 72830.765

STANDARD DEVIATION = 41182.078

BIBLIOGRAPHY

1. Barlow, Melvin L., UCLA Allied Health Profession Project Report-Medical Office Assistant, University of California, Los Angeles, 1971.

2. Bates, Steven S., Fundamentals of the Optometric Assistant, Chilton Book Co., 1970.

3. Brechler, Fredrick C., and Brun, Carol (Mrs.), Visual Care for the 1970's; A Plan for Development of an Optometric Paraprofessional Training Program, February, 1971.

4. Haffner, Alden N., and Sherman, Jerome, A National Study of Assisting Manpower in Optometry, August, 1971.

5. Kassalow, Sylvia D., Optometrist Manpower Survey - Wisconsin 1971, Department of Health and Social Services, Division of Health Statistics, Section on Statistical Services, State of Wisconsin, 1971.

6. Lakeshore Technical Institute, Occupation Survey: Optometric Assistant Training Program, October, 1966.

7. Schrader, Marvin A., Dental Assistant Program Job Analysis, an unpublished report completed in 1972.

8. Wein, William, Student Evaluation Instrument, developed for use at Lakeshore Technical Institute in 1973.

9. College Catalogs and Course Outlines

   Merritt College, Oakland, California

   Miami-Dade Junior College, Miami, Florida

   Naval Ophthalmic Support and Training Activity, Williamsburg, Virginia

   Southern California College of Optometry, Los Angeles, California

   Southern College of Optometry, Memphis, Tennessee

   University of Alabama, Birmingham, Alabama

SUPPLEMENT

TO

FINAL REPORT

PROJECT NO. 11.009.151

TASK ANALYSIS

OPTOMETRIC ASSISTANT

OCTOBER, 1974

Marvin A. Schrader

CONTENTS

General 106

Average of Frequency Responses

1. Type of Optometric Practice 108

2. Number of Assistants 116

Task Analysis results end up as a series of numbers which are in themselves worth very little to the curriculum persons and instructors involved. In order that the numbers have value and the efforts of obtaining this data be justified, decision points must be set. Decision points are points that define parameters of categories. In this study, the categories decided upon were: 1) essential task; must be included at level indicated, 2) nonessential task; recommended for inclusion at level indicated, 3) task can be eliminated without being detrimental to the program; may be nice to know.

The decision points in this study were defined using the mean of the frequency as the criteria. Even though page 15 of the final report indicated that both frequency and proficiency would be utilized, it was decided that only frequency would be used in determining whether or not a task should be included. The proficiency mean would then only be used in studying the level needed by the students. The decision points were set as presented below. Following these is a listing of the tasks under each of the categories.

Category	Decision Point(s)
1. Essential task; must be included	3.00 and above
2. Nonessential task; recommended for inclusion	2.00-3.99
3. Task that can be eliminated	below 2.00

The following has been based on frequency data given on page 61 of the final report Task Analysis--Optometric Assistant. June, 1974.

Essential Task Must Be Included	Essential Task Must Be Included
1.01--1.09	8.15, 8.18--8.25
2.01--2.04	9.02,10.01--11.07
2.06, 2.07, 2.09,	11.09, 11.13--12.09
3.04, 3.06, 3.07	12.13, 12.15--13.04
3.09, 4.01--4.07	13.08--13.10
4.09--6.02	13.13, 14.08, 14.26
6.09--6.11	14.27, 14.32
6.18, 7.01--8.10	
8.12	

Total = 125 Tasks

Nonessential Tasks Recommended for Inclusion	Nonessential Tasks Recommended for Inclusion
2.05, 2.08, 3.01	11.08, 11.10--11.12
3.08, 4.08, 6.12	12.10, 12.12, 12.14
6.15, 7.17, 7.19	13.05, 13.07, 13.11
8.11, 8.13, 8.14	13.12, 14.01--14.07
8.16, 8.17, 8.26	14.09--14.13, 14.16--14.25
9.01, 9.03--9.07	14.28--14.31, 14.34, 14.37

Total = 65 Tasks

Nonessential Tasks-- Not Recommended for Inclusion	Nonessential Tasks-- Not Recommended for Inclusion
3.02, 3.03	12.11, 14.14
6.13, 6.14	14.15, 14.27
6.16	14.33--14.35

Total = 12 Tasks

The following pages containing tables of means are included so that a person might determine if there was a significant difference between the groups of respondents. In general, a difference greater than 0.4 is significant.

There are a number of tasks in which the responses from the different practice categories are significantly different. This indicates that a different set of tasks should be used if assistants were to be trained specifically for each type of practice. At the present time, this will not be feasible because of the small number of optometric practices in several of the categories. As these numbers grow, this decision will have to be reevaluated.

AVERAGE OF FREQUENCY RESPONSES

Item Number	Type of Optometric Practice: General N=16	General & Contact N=143	Contact Lenses N=8	All Optometrists N=173	Jury Members N=7
1.01	5.29	5.96	6.00	4.64	5.43
1.02	6.00	5.46	4.38	4.04	5.29
1.03	4.14	4.99	4.75	3.95	5.14
1.04	4.29	3.93	4.63	3.23	4.33
1.05	3.43	4.63	5.71	3.55	5.00
1.06	5.43	5.70	6.00	4.09	5.86
1.07	5.43	5.64	5.86	4.08	6.00
1.08	5.36	5.70	5.75	4.08	6.00
1.09	4.29	4.50	4.00	3.39	5.86
2.01	5.71	5.86	6.00	4.15	6.00
2.02	5.71	5.59	5.88	3.97	5.29
2.03	4.36	4.92	5.75	3.69	5.86
2.04	3.86	4.36	3.13	3.20	4.43
2.05	3.00	2.52	1.88	2.07	3.71
2.06	4.00	3.96	2.88	3.08	4.57
2.07	4.71	4.82	5.00	4.29	5.14
2.08	2.79	3.13	1.88	2.83	3.86
2.09	3.29	3.78	3.25	2.96	4.43
3.01	4.00	2.87	3.50	2.17	3.57
3.02	1.71	1.75	1.38	1.77	2.86
3.03	1.93	1.82	1.88	1.67	2.33
3.04	5.36	5.20	5.88	4.21	6.00
3.05	3.57	3.93	2.38	2.98	3.57
3.06	5.07	5.42	4.75	3.83	5.57
3.07	4.07	5.011	5.00	3.61	6.00

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
3.08	2.86	3.33	2.63	2.57	3.43
3.09	4.64	4.80	5.38	3.59	5.86
4.01	5.43	5.98	6.00	5.72	6.00
4.02	5.29	4.52	6.00	4.32	5.86
4.03	5.14	4.73	5.00	4.54	5.86
4.04	4.57	5.05	5.75	4.78	5.43
4.05	3.93	4.17	5.13	3.82	4.57
4.06	3.85	3.78	4.25	3.81	4.29
4.07	4.28	4.40	5.25	4.03	3.43
4.08	2.79	2.71	3.75	2.78	3.86
4.09	4.36	4.53	5.25	4.38	4.17
4.10	4.07	4.41	4.75	4.54	4.29
4.11	3.93	3.42	4.88	3.55	4.29
4.12	4.08	3.97	4.38	4.03	3.71
4.13	4.36	4.27	5.50	4.18	5.29
5.01	5.21	5.79	6.00	5.45	6.00
5.02	3.54	3.78	4.13	3.63	3.14
5.03	4.43	5.28	5.38	5.05	5.00
5.04	5.64	5.95	6.00	5.60	6.00
5.05	4.86	3.87	4.13	3.69	4.86
5.06	5.36	5.60	5.75	5.25	5.00
5.07	5.54	5.45	5.86	5.18	4.29
6.01	5.50	5.40	5.38	5.07	5.71
6.02	5.14	5.18	4.00	4.88	5.14
6.03	2.71	2.60	3.50	2.43	3.29

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
6.04	3.21	2.80	2.38	2.66	3.57
6.05	2.77	2.67	3.00	2.53	2.83
6.06	3.57	2.92	2.63	2.78	3.29
6.07	2.64	2.62	2.50	2.58	2.71
6.08	2.08	2.29	2.25	2.21	3.14
6.09	3.79	3.70	2.88	3.15	4.00
6.10	3.57	4.13	4.00	4.00	4.71
6.11	3.36	3.85	3.50	3.52	4.29
6.12	3.17	2.76	3.13	2.69	3.86
6.13	2.14	1.51	1.25	1.45	1.67
6.14	2.38	2.33	1.25	1.87	1.80
6.15	3.43	3.66	3.63	2.70	3.83
6.16	1.54	1.34	1.75	1.33	1.71
6.17	1.54	1.13	1.14	2.33	1.14
6.18	3.43	3.05	2.13	3.20	2.83
6.19	3.92	2.51	2.75	2.77	3.43
7.01	4.86	5.49	5.88	4.08	5.86
7.02	5.46	5.19	6.00	4.02	5.29
7.03	5.00	4.98	6.00	4.88	4.71
7.04	4.43	5.08	4.75	4.83	5.57
7.05	4.92	5.29	6.00	5.60	5.29
7.06	3.46	4.14	4.38	4.76	4.43
7.07	3.54	4.04	4.88	4.39	4.13
7.08	3.21	4.17	4.50	4.17	4.00
7.09	3.21	4.20	4.63	4.41	4.29

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
7.10	2.79	3.79	4.14	4.57	3.00
7.11	2.57	2.56	3.14	3.90	2.71
8.01	4.86	5.01	6.00	5.24	4.14
8.02	5.43	5.75	6.00	5.40	6.00
8.03	5.00	4.90	4.75	5.21	4.14
8.04	5.38	5.70	6.00	5.74	5.29
8.05	4.86	5.38	6.00	4.98	4.71
8.06	5.31	5.38	6.00	4.99	5.14
8.07	4.93	4.93	5.13	4.04	4.57
8.08	5.00	4.57	4.75	4.14	4.43
8.09	3.64	3.32	3.38	3.90	3.86
8.10	3.29	3.39	3.50	3.29	3.14
8.11	2.15	1.82	2.13	2.53	2.29
8.12	3.69	3.87	4.00	3.46	3.71
8.13	2.69	3.29	4.00	2.85	2.57
8.14	2.93	3.09	3.75	2.51	2.29
8.15	3.29	3.27	3.50	3.96	3.14
8.16	2.64	2.53	2.43	2.78	1.86
8.17	2.29	1.93	1.86	3.14	2.00
8.18	2.79	3.19	2.57	3.72	2.57
8.19	2.86	3.06	3.48	3.04	2.43
8.20	2.62	2.57	1.43	3.32	2.00
8.21	4.79	4.36	5.13	4.94	3.14
8.22	4.00	3.47	3.50	4.11	4.17
8.23	4.86	4.08	4.65	4.30	3.71

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
8.24	4.14	3.70	4.75	4.05	2.71
8.25	3.36	3.18	2.00	3.75	3.14
8.26	2.50	2.01	1.88	2.72	2.86
9.01	1.64	1.53	1.38	2.70	1.57
9.02	3.93	3.97	3.88	3.80	3.00
9.03	2.71	2.36	1.88	3.19	1.43
9.04	1.93	1.60	1.38	2.63	2.14
9.05	1.79	1.90	1.63	2.64	3.29
9.06	2.17	1.70	2.25	2.60	1.86
9.07	1.83	1.72	1.63	2.94	2.17
10.01	4.86	4.48	3.38	4.98	5.17
10.02	4.77	4.02	4.00	4.02	5.29
10.03	4.71	4.30	2.50	4.72	4.71
10.04	5.21	4.94	4.38	5.28	5.29
10.05	3.43	3.61	3.88	3.57	4.29
10.06	6.00	5.69	5.63	5.61	5.86
10.07	2.71	3.15	2.63	3.92	3.57
10.08	5.57	5.06	4.50	5.21	4.86
11.01	2.71	2.58	3.00	3.53	4.29
11.02	5.14	5.44	5.50	4.38	6.00
11.03	2.79	4.00	3.38	3.55	4.14
11.04	4.07	4.27	4.50	3.91	4.86
11.05	3.86	4.51	4.88	3.93	5.14
11.06	4.64	5.02	5.38	4.21	5.43
11.07	4.50	4.88	5.38	3.87	5.43

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
11.08	2.29	2.72	3.25	2.86	3.14
11.09	2.31	3.98	4.25	3.96	4.29
11.10	1.57	2.27	2.00	2.70	3.00
11.11	2.29	2.29	2.88	2.50	2.00
11.12	2.43	3.34	4.75	2.71	3.43
11.13	3.21	4.43	5.13	3.52	4.14
11.14	5.69	5.70	6.00	4.98	6.00
11.15	3.46	3.67	3.63	2.98	3.14
11.16	4.31	4.69	5.50	3.62	5.43
11.17	2.85	4.11	4.88	3.58	4.71
11.18	2.58	3.83	4.38	3.32	4.43
12.01	3.23	4.81	4.50	5.04	5.29
12.02	3.15	4.55	4.50	4.82	5.00
12.03	4.08	4.89	5.88	4.92	5.29
12.04	3.77	4.66	5.00	4.54	4.57
12.05	3.75	4.72	5.50	4.88	4.29
12.06	2.42	3.29	4.75	3.42	4.00
12.07	4.42	5.05	5.50	4.56	5.29
12.08	4.09	5.01	5.38	4.62	4.71
12.09	4.15	4.42	4.50	4.28	3.83
12.10	1.92	1.60	3.00	2.79	3.29
12.11	1.85	1.33	2.88	1.97	1.00
12.12	1.92	1.78	1.63	2.87	1.29
12.13	2.33	3.53	4.00	4.21	4.71
12.14	2.31	1.54	3.25	2.96	2.71

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
12.15	2.21	2.52	3.75	3.51	3.86
12.16	3.61	3.03	5.00	4.05	4.00
13.01	4.08	3.76	4.63	4.79	4.86
13.02	2.08	2.12	3.88	3.55	3.57
13.03	3.23	3.38	3.88	3.81	3.86
13.04	3.43	3.75	5.37	3.71	3.71
13.05	2.07	2.06	4.63	2.91	2.86
13.06	1.92	1.74	3.75	2.13	3.50
13.07	2.50	1.83	3.75	2.91	1.50
13.08	3.85	3.82	5.63	3.71	4.29
13.09	2.77	2.73	3.00	3.01	3.67
13.10	3.23	3.22	3.50	3.43	3.71
13.11	2.69	2.59	2.88	2.79	3.71
13.12	2.08	2.71	3.88	2.60	4.00
13.13	4.31	3.72	4.13	3.55	3.57
14.01	2.54	2.40	3.00	3.06	4.33
14.02	2.62	2.56	2.75	2.97	3.83
14.03	2.62	1.84	1.50	3.02	2.50
14.04	2.21	1.42	1.50	2.49	2.33
14.05	1.86	1.56	1.50	2.84	3.67
14.06	2.08	1.78	2.13	2.77	3.86
14.07	1.77	1.26	1.38	2.34	3.00
14.08	3.38	3.19	3.88	3.14	4.57
14.09	1.31	1.53	1.50	2.15	3.14
14.10	1.77	1.53	1.50	2.91	3.43

Item Number	General	General & Contact	Contact Lenses	Optom-etrists	Members
14.11	1.77	2.08	2.25	2.51	3.43
14.12	1.46	1.84	1.50	2.12	2.86
14.13	1.62	1.70	1.88	2.11	2.57
14.14	2.00	1.69	1.75	1.96	2.57
14.15	1.29	1.33	1.25	1.79	2.43
14.16	2.15	1.55	1.63	2.77	2.33
14.17	1.85	1.55	1.63	2.55	1.83
14.18	1.85	1.42	1.63	2.72	1.83
14.19	1.85	1.40	1.63	2.93	1.83
14.20	1.85	1.51	2.25	2.76	2.17
14.21	1.69	1.41	1.63	3.34	2.40
14.22	1.54	1.41	1.50	2.26	2.60
14.23	1.31	1.32	1.13	2.76	2.40
14.24	1.31	1.24	1.75	2.17	2.60
14.25	1.31	1.47	2.13	3.14	1.80
14.26	3.69	3.52	4.75	3.78	5.17
14.27	2.92	2.64	3.75	3.48	5.17
14.28	2.08	2.01	2.25	3.34	5.00
14.29	1.29	1.37	1.88	2.82	2.00
14.30	1.08	1.27	1.38	2.53	1.20
14.31	1.54	1.35	1.38	2.24	1.80
14.32	1.83	2.80	3.25	3.28	3.83
14.33	1.15	1.15	1.00	1.86	2.00
14.34	1.00	1.08	1.00	1.58	1.00
14.35	1.00	1.12	1.13	2.14	1.40
14.36	1.21	1.18	1.13	2.54	1.40
14.37	1.36	1.66	1.13	3.08	3.00

AVERAGE OF FREQUENCY RESPONSES

Item Number	Number of Assistants 0 N = 17	1 N = 73	2 - 3 N = 106	Over 3 N = 22
1.01	6.00	5.90	5.89	5.95
1.02	6.00	5.08	5.53	5.95
1.03	5.15	4.68	5.04	5.10
1.04	5.08	2.93	4.33	5.05
1.05	5.15	4.28	4.59	4.79
1.06	5.71	5.74	5.73	5.40
1.07	5.07	5.63	5.76	5.75
1.08	5.57	5.72	5.73	5.50
1.09	4.07	4.47	4.57	4.11
2.01	5.79	5.81	5.90	5.80
2.02	4.86	5.56	5.71	5.60
2.03	4.29	4.67	5.20	5.05
2.04	4.43	4.53	3.96	4.90
2.05	2.71	2.43	2.50	2.70
2.06	5.00	3.92	4.03	3.00
2.07	5.14	5.01	4.68	4.74
2.08	4.07	2.93	3.01	3.58
2.09	4.29	3.55	3.79	3.95
3.01	3.71	2.56	3.24	3.35
3.02	2.00	1.76	1.81	1.90
3.03	2.43	1.63	1.85	2.50
3.04	6.00	4.42	5.39	5.35
3.05	3.85	3.69	3.97	4.15
3.06	5.36	5.51	5.20	5.00
3.07	5.43	4.76	4.96	5.35

Item No.	0	1	2 - 3	Over 3
3.08	4.15	3.01	3.35	2.89
3.09	4.69	4.51	5.01	5.00
4.01	6.00	5.92	5.94	5.75
4.02	4.46	4.31	4.91	4.90
4.03	5.00	4.55	4.95	4.65
4.04	5.57	4.88	5.04	5.35
4.05	4.86	3.76	4.42	4.75
4.06	4.21	3.85	3.77	4.20
4.07	5.43	3.57	4.78	5.75
4.08	4.08	2.06	3.11	4.05
4.09	4.57	4.30	4.72	4.70
4.10	5.00	4.15	4.58	4.53
4.11	3.92	3.20	3.75	3.35
4.12	4.46	3.80	4.09	4.22
4.13	4.57	3.84	4.77	4.32
5.01	5.93	5.60	5.82	5.74
5.02	4.64	3.27	4.18	3.26
5.03	5.64	4.90	5.34	5.47
5.04	6.00	5.90	5.89	5.95
5.05	4.00	3.85	4.04	3.60
5.06	5.50	5.33	5.76	5.90
5.07	5.93	5.28	5.60	5.39
6.01	5.69	5.45	5.42	4.95
6.02	5.69	5.11	5.03	5.00
6.03	3.69	2.10	2.76	3.63

Item No.	0	1	2 - 3	Over 3
6.04	3.91	2.69	2.75	3.12
6.05	3.08	2.08	2.95	3.47
6.06	2.92	2.70	3.07	3.06
6.07	2.71	2.36	2.78	2.71
6.08	2.71	2.04	2.43	2.00
6.09	4.43	3.14	3.76	4.65
6.10	3.79	3.89	4.14	4.50
6.11	3.92	3.53	4.01	3.72
6.12	3.62	2.28	3.05	2.32
6.13	1.50	1.58	1.54	1.84
6.14	2.58	2.30	2.39	2.16
6.15	3.00	3.61	3.64	4.16
6.16	1.27	1.21	1.58	1.44
6.17	1.27	1.10	1.30	1.58
6.18	3.18	2.72	3.30	3.88
6.19	3.55	2.15	2.90	3.47
7.01	6.00	5.38	5.48	5.11
7.02	6.00	5.26	5.21	4.78
7.03	6.00	5.00	5.08	4.94
7.04	5.77	5.19	4.88	4.61
7.05	6.00	5.24	5.35	4.89
7.06	4.08	4.30	4.08	3.61
7.07	4.36	3.89	4.15	4.06
7.08	4.58	3.99	4.08	4.12
7.09	4.83	4.03	4.07	4.12

Item No.	0	1	2 - 3	Over 3
7.10	4.58	3.49	3.72	4.18
7.11	3.83	2.39	2.64	2.41
8.01	5.33	4.74	5.17	5.67
8.02	6.00	5.74	5.80	5.22
8.03	5.42	4.51	5.01	5.00
8.04	5.50	5.81	5.68	5.28
8.05	5.30	5.27	5.44	5.33
8.06	5.60	5.29	5.52	5.29
8.07	4.73	4.94	5.00	5.00
8.08	4.09	4.51	4.78	4.71
8.09	3.27	3.38	3.25	3.71
8.10	3.36	3.25	3.50	3.24
8.11	2.60	1.77	1.84	1.67
8.12	4.17	3.66	3.84	4.37
8.13	3.93	3.21	3.26	3.39
8.14	3.18	3.06	3.09	3.17
8.15	3.50	3.22	3.32	3.56
8.16	2.23	2.37	2.67	2.35
8.17	2.15	1.92	2.06	1.88
8.18	3.00	3.03	3.17	3.18
8.19	2.75	2.86	3.16	3.18
8.20	3.00	2.54	2.56	3.06
8.21	5.15	4.04	4.58	2.18
8.22	3.46	3.67	3.36	4.53
8.23	4.46	3.95	4.24	4.11

Item No.	0	1	2 - 3	Over 3
8.24	4.15	3.70	3.60	3.94
8.25	3.46	3.36	2.86	3.83
8.26	2.50	2.03	2.03	2.94
9.01	2.50	1.46	1.45	1.63
9.02	4.50	3.62	3.82	5.00
9.03	2.79	2.10	2.34	3.47
9.04	2.36	1.57	1.61	1.58
9.05	2.38	1.86	1.79	2.29
9.06	2.23	1.66	1.79	1.72
9.07	2.15	1.61	1.74	2.00
10.01	5.29	4.48	4.32	4.26
10.02	5.21	4.01	4.00	4.16
10.03	5.29	4.01	4.16	4.40
10.04	5.50	4.95	4.86	4.55
10.05	4.07	3.81	3.58	2.70
10.06	5.57	5.74	5.68	5.37
10.07	3.64	2.75	3.24	3.53
10.08	5.29	4.79	5.02	5.67
11.01	2.64	2.89	2.37	4.63
11.02	5.43	5.30	5.32	5.95
11.03	4.21	3.59	3.88	4.47
11.04	4.64	4.15	4.10	5.00
11.05	4.43	4.24	4.65	4.95
11.06	5.07	4.86	4.88	5.58
11.07	4.50	4.73	4.79	5.58

Item No.	0	1	2 - 3	Over 3
11.08	3.29	2.24	3.12	2.63
11.09	4.50	3.36	4.02	4.79
11.10	2.79	1.89	2.25	3.11
11.11	2.93	2.18	2.25	3.47
11.12	3.07	2.63	3.57	5.16
11.13	4.21	3.82	4.58	5.37
11.14	5.64	5.71	5.69	5.63
11.15	3.29	3.44	3.87	3.58
11.16	4.50	4.68	4.72	4.95
11.17	4.07	3.55	4.25	5.00
11.18	3.74	3.32	3.89	5.11
12.01	4.50	4.46	4.88	5.11
12.02	4.14	4.06	4.68	5.05
12.03	4.50	4.85	4.88	5.00
12.04	4.00	4.53	4.56	5.05
12.05	4.00	4.58	4.63	5.16
12.06	3.64	2.48	3.58	4.21
12.07	4.14	5.01	5.02	5.32
12.08	3.93	4.93	4.94	5.42
12.09	3.79	4.26	4.39	4.79
12.10	1.71	1.58	1.82	2.72
12.11	1.64	1.18	1.48	2.32
12.12	2.21	1.39	1.79	2.84
12.13	3.57	2.86	3.66	4.37
12.14	1.86	1.50	1.72	2.63

Item No.	0	1	2 - 3	Over 3
12.15	2.21	2.40	2.49	3.35
12.16	4.45	2.69	3.30	3.69
13.01	4.79	3.71	3.79	3.78
13.02	3.00	2.17	2.34	2.67
13.03	3.57	3.29	3.36	3.70
13.04	3.71	3.58	3.97	3.85
13.05	2.86	2.13	2.34	2.63
13.06	2.79	1.77	2.04	2.06
13.07	3.07	1.84	2.18	1.82
13.08	3.50	3.75	4.07	3.95
13.09	3.43	2.68	2.81	3.26
13.10	3.64	3.11	3.34	3.55
13.11	2.36	2.73	2.48	3.00
13.12	2.93	2.21	2.96	4.11
13.13	3.57	3.52	3.96	4.00
14.01	3.86	2.06	2.76	3.15
14.02	3.57	2.16	2.90	3.15
14.03	2.86	1.71	2.15	2.11
14.04	3.00	1.52	1.51	1.58
14.05	3.31	1.64	1.70	1.84
14.06	3.07	1.46	2.19	2.00
14.07	2.00	1.41	1.37	1.42
14.08	3.64	2.51	3.77	4.32
14.09	2.46	1.68	1.56	1.84
14.10	2.23	1.64	1.69	1.58

Item No.	0	1	2 - 3	Over 3
14.11	3.07	1.69	2.19	3.79
14.12	3.38	1.63	1.71	3.35
14.13	2.92	1.62	1.56	3.44
14.14	2.92	1.60	1.70	2.88
14.15	2.67	1.35	1.28	1.78
14.16	2.64	1.65	1.69	1.00
14.17	2.64	1.61	1.67	1.26
14.18	2.62	1.49	1.55	1.37
14.19	2.62	1.46	1.56	1.47
14.20	2.43	1.57	1.74	1.74
14.21	2.43	1.49	1.52	1.44
14.22	1.57	1.38	1.55	1.28
14.23	1.69	1.32	1.42	1.00
14.24	1.25	1.42	1.36	1.18
14.25	2.23	1.28	1.59	1.94
14.26	3.93	2.69	4.16	5.00
14.27	3.92	2.10	3.22	2.94
14.28	3.77	1.94	2.16	2.27
14.29	3.00	1.28	1.47	1.00
14.30	2.54	1.33	1.12	1.28
14.31	2.67	1.39	1.29	1.41
14.32	3.93	2.22	2.92	4.37
14.33	1.85	1.32	1.09	1.33
14.34	1.00	1.00	1.14	1.00
14.35	1.36	1.12	1.16	1.00
14.36	1.36	1.24	1.16	1.24
14.37	2.43	1.57	1.61	1.82